United States Department of Agriculture

Natural Resources Conservation Service

In cooperation with

Bureau of Land Management,

National Park Service, United States Department of the Interior

And the Arizona Agricultural Experiment Station

Soil Survey of Mohave County, Arizona,

Central Part

How To Use This Soil Survey

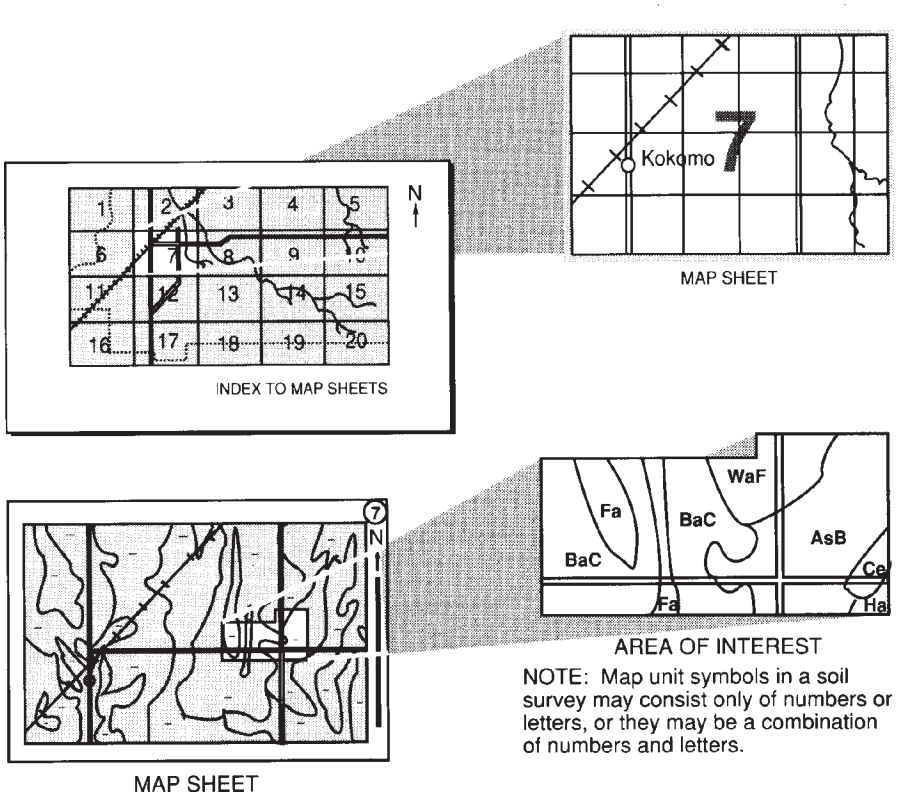
Detailed Soil Maps

The detailed soil maps can be useful in planning the use and management of small areas.

To find information about your area of interest, locate that area on the **Index to Map Sheets**. Note the number of the map sheet and turn to that sheet.

Locate your area of interest on the map sheet. Note the map unit symbols that are in that area. Turn to the **Contents**, which lists the map units by symbol and name and shows the page where each map unit is described.

The **Contents** shows which table has data on a specific land use for each detailed soil map unit. Also see the **Contents** for sections of this publication that may address your specific needs.



This soil survey is a publication of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (formerly the Soil Conservation Service) has leadership for the Federal part of the National Cooperative Soil Survey.

Major fieldwork for the Order 2 portion of this soil survey was completed in 1980. Major fieldwork for the Order 3 portion of this soil survey was completed in 2003. Soil names and descriptions were approved in 2004. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 2003. This survey was made cooperatively by the Natural Resources Conservation Service, the Bureau of Land Management and National Park Service of the United States Department of the Interior, and the Arizona Agricultural Experiment Station. The survey is part of the technical assistance furnished to the Big Sandy Natural Resources Conservation District.

Soil maps in this survey may be copied without permission. Enlargement of these maps, however, could cause misunderstanding of the detail of mapping. If enlarged, maps do not show the small areas of contrasting soils that could have been shown at a larger scale.

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Cover: An area of Pantak family-Taine-Terino family complex, 15 to 65 percent slopes, on basalt hills in Hackberry Valley, Mohave County, Arizona.

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Foreword

This soil survey contains information that affects land use planning in this survey area. It contains predictions of soil behavior for selected land uses. The survey also highlights soil limitations.

This soil survey is designed for many different users. Ranchers and foresters can use it to evaluate the potential of the soil and the management needed for maximum production. Planners, community officials, engineers, developers, builders, and home buyers can use the survey to plan land use, select sites for construction, and identify special practices needed to ensure proper performance. Conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the survey to help them understand, protect, and enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. The information in this report is intended to identify soil properties that are used in making various land use or land treatment decisions. Statements made in this report are intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are shallow to bedrock. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations (Natural Resources Conservation Service, 2003).

These and many other soil properties that affect land use are described in this soil survey. The location of each soil is shown on the detailed soil maps. Each major soil in the survey area is described. Information on specific uses is given for each soil. Help in using this publication and additional information are available at the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

David L. McKay
State Conservationist
Natural Resources Conservation Service

Soil Survey of
Mohave County, Arizona, Central Part

By Richard K. Strait

Fieldwork for the Order 2 portion of the survey area by Russel L. Barmore, Natural Resources Conservation Service. Fieldwork for the Order 3 portion of the survey area covering the Peacock Mountains and Hackberry Valley by Arthur F. Fischer and Richard K. Strait, Natural Resources Conservation Service. Fieldwork for the remaining Order 3 portion of the survey area by Wendell Jorgensen, Natural Resources Conservation Service, and Paul Hobbs, Bureau of Land Management.

This survey was made cooperatively by the Natural Resources Conservation Service, the Bureau of Land Management and National Park Service of the United States Department of the Interior, and the Arizona Agricultural Experiment Station. The survey is part of the technical assistance furnished to the Big Sandy Natural Resources Conservation District.

General Nature of the Area

Mohave County, Central Part, is located in the middle portion of Mohave County, Arizona. Kingman, the county seat, had a population of 20,069 in 2000. The survey area encompasses about 3,799 square miles, or 2,431,200 acres. Dominant land types include rangeland, recreation, urban land, and woodland. Major Land Resource Areas include the Mohave Desert, the Colorado Plateaus, and the Mogollon Transition (Soil Conservation Service, 1981).

Elevations of the survey area range from about 600 to about 6,800 feet above mean sea level.

Physiographically, the survey area consists of four main mountain ranges and three broad valleys. The Black Mountains separate the Colorado River drainage from the Sacramento Valley to the south and the Detrital Valley to the north. The Cerbat Mountains lie to the east of these valleys. Hualapai Valley is bounded by the Cerbat Mountains to the west, the Music Mountains to the northeast, and the Peacock Mountains to the southeast.

The geology of the Black Mountains includes granite, basalt, schist, volcanics, and rhyolite. Granite dominates the Cerbat Mountains, with smaller amounts of basalt and andesite. The Music Mountains are mostly granite capped with basalt and limestone. The Peacock Mountains consist mostly of granite and schist, with lesser amounts of basalt and andesite.

Figure 1.–Location of Mohave County, Arizona, Central Part

Soils in the valleys developed in alluvium from the

surrounding mountains. These soils are strongly influenced by granitic parent material.

How This Survey Was Made

This survey was made to provide information about the soils and miscellaneous areas in the survey area. The information includes a description of the soils and miscellaneous areas and their location. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They dug many holes to study the soil profile, which is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

The soils and miscellaneous areas in the survey area are in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept or model of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil Taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and identified each as a specific map unit. Aerial photographs show trees, buildings, roads, and rivers, all of which help in locating boundaries accurately.

Detailed Soil Map Units

The map units delineated on the detailed soil maps in this survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions in this section, along with the maps, can be used to determine the suitability and potential of a unit for specific uses. They also can be used to plan the management needed for those uses.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. The contrasting components are mentioned in the map unit descriptions. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives the principal hazards and limitations to be considered in planning for specific uses.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Vekol loam is a phase of the Vekol series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes or associations.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Tyro-Sunrock complex, 3 to 15 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or

necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Appleseed-Huevi association, 4 to 30 percent slopes, is an example.

This survey includes *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Pits-Dumps complex is an example.

Table 1 gives the acreage and proportionate extent of each map unit. Other tables give properties of the soils and the limitations, capabilities, and potentials for many uses. The Glossary defines many of the terms used in describing the soils or miscellaneous areas.

1—Alko family cobbly loam, 0 to 25 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 2,000 to 4,800 feet (610 to 1,463 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 62 to 68 degrees F (17 to 20 degrees C)
Mean annual soil temperature: 64 to 70 degrees F (19 to 22 degrees C)
Frost-free period: 180 to 255 days

Map Unit Composition

Alko family and similar soils: 85 percent
Minor components: 15 percent

Properties and Qualities

Alko family soils

Taxonomic classification: Loamy, mixed, superactive, thermic, shallow Typic Haplodurids
Parent material: Alluvium derived from mixed rock sources
Slope: 0 to 25 percent
Depth to restrictive feature: 10 to 20 inches to duripan
Drainage class: Well drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 1.6
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mojave Desert
Ecological site name: Limy Upland 6-10" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB214AZ
Present native vegetation: creosotebush, white bursage, big galleta
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 1 inch; cobbly loam
Bw—1 to 10 inches; gravelly loam
Bk—10 to 15 inches; gravelly loam
2Bkqm—15 to 31 inches; indurated
2C—31 to 60 inches; extremely gravelly sand

2—Alko family gravelly sandy loam, 1 to 15 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 3,300 to 3,900 feet (1,006 to 1,189 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 59 to 64 degrees F (15 to 18 degrees C)
Mean annual soil temperature: 61 to 66 degrees F (17 to 20 degrees C)
Frost-free period: 200 to 230 days

Map Unit Composition

Alko family and similar soils: 85 percent
Minor components: 15 percent

Properties and Qualities

Alko family soils

Taxonomic classification: Loamy, mixed, superactive, thermic, shallow Typic Haplodurids
Parent material: Alluvium derived from mixed rock sources
Slope: 1 to 15 percent
Depth to restrictive feature: 7 to 20 inches to duripan
Drainage class: Well drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 2.0
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Limy Upland 10-13" p.z.

Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC311AZ
Present native vegetation: Juniperus, broom snakeweed, Yucca
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; gravelly sandy loam
Bw—2 to 10 inches; gravelly loam
Bk—10 to 18 inches; gravelly loam
2Bkqm—18 to 31 inches; indurated
2C—31 to 60 inches; extremely gravelly sand

3—Appleseed-Huevi association, 4 to 30 percent slopes

Map Unit Setting

Landform: hills and mountains
Elevation: 1,200 to 2,000 feet (366 to 610 meters)
Mean annual precipitation: 3 to 6 inches (76 to 152 millimeters)
Mean annual air temperature: 70 to 78 degrees F (21 to 26 degrees C)
Mean annual soil temperature: 72 to 80 degrees F (23 to 28 degrees C)
Frost-free period: 280 to 320 days

Map Unit Composition

Appleseed and similar soils: 45 percent
Huevi and similar soils: 40 percent
Minor components: 15 percent

Properties and Qualities

Appleseed soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, calcareous, hyperthermic Lithic Torriorthents
Parent material: Alluvium derived from limestone
Slope: 4 to 30 percent
Surface fragments: About 25 percent channers, about 35 percent coarse gravel
Depth to restrictive feature: 4 to 20 inches to bedrock (lithic)
Drainage class: Somewhat excessively drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 0.8
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-1AZ; Lower Mojave Desert
Ecological site name: Limestone Hills 3-6" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XA126AZ
Present native vegetation: white brittlebush
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; very flaggy sandy loam
Bk—2 to 11 inches; very flaggy sandy loam
2R—11 to 11 inches; unweathered bedrock

Huevi soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, hyperthermic Durinodic Haplocalcids
Parent material: Alluvium derived from limestone
Slope: 4 to 30 percent
Surface fragments: About 40 percent coarse gravel, about 5 percent cobbles
Drainage class: Well drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 4.8
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Low
Hydrologic group: A
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-1AZ; Lower Mojave Desert
Ecological site name: Limy Slopes 3-6" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XA107AZ
Present native vegetation: creosotebush, white bursage
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; very gravelly sandy loam
Bk—2 to 18 inches; very gravelly sandy loam
2Bkq—18 to 60 inches; very gravelly loam

4—Aridic Argiustolls-Lithic Haplustolls complex, 1 to 40 percent slopes

Map Unit Setting

Landform: fan terraces

Elevation: 5,100 to 5,300 feet (1,554 to 1,616 meters)
Mean annual precipitation: 14 to 18 inches (356 to 457 millimeters)
Mean annual air temperature: 48 to 52 degrees F (9 to 11 degrees C)
Mean annual soil temperature: 50 to 54 degrees F (11 to 13 degrees C)
Frost-free period: 135 to 150 days

Map Unit Composition

Aridic Argiustolls and similar soils: 60 percent
Lithic Haplustolls and similar soils: 30 percent
Minor components: 10 percent

Properties and Qualities

Aridic Argiustolls soils

Taxonomic classification: Aridic Argiustolls
Parent material: Alluvium derived from limestone
Slope: 1 to 40 percent
Drainage class: Well drained
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Hydrologic group: C
Major Land Resource Area: 35; Colorado Plateaus
Land Resource Unit: 35-7AZ; Mogollon Plateaus Pinyon-Juniper Woodland and Grassland
Ecological site name: Clayey Upland 14-18" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R035XG706AZ
Present native vegetation: western wheatgrass, blue grama, bottlebrush squirreltail, sideoats grama, galleta, muttongrass
Land capability (nonirrigated): 6c

Typical Profile

Soils in this landscape position are highly variable with respect to depth, texture, color, and/or chemical properties. Therefore, physical and chemical properties of specific horizons are not given, and interpretations such as erodibility are not determined. The taxonomic unit description is representative of what may be found in this landscape position.

Lithic Haplustolls soils

Taxonomic classification: Lithic Haplustolls
Parent material: Alluvium derived from limestone
Slope: 1 to 40 percent
Depth to restrictive feature: 5 to 20 inches to bedrock (lithic)
Drainage class: Well drained
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Hydrologic group: D
Major Land Resource Area: 35; Colorado Plateaus
Land Resource Unit: 35-7AZ; Mogollon Plateaus Pinyon-Juniper Woodland and Grassland
Ecological site name: Shallow Loamy 14-18" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R035XG717AZ
Present native vegetation: blue grama, needle and thread, black grama, bottlebrush squirreltail, muttongrass, sideoats grama
Land capability (nonirrigated): 6c

Typical Profile

Soils in this landscape position are highly variable with respect to depth, texture, color, and/or chemical properties. Therefore, physical and chemical properties of specific horizons are not given, and interpretations such as erodibility are not determined. The taxonomic unit description is representative of what may be found in this landscape position.

5—Arizo-Detrital-Nickel complex, 2 to 6 percent slopes

Map Unit Setting

Landform: alluvial fans
Elevation: 2,400 to 2,900 feet (732 to 884 meters)
Mean annual precipitation: 6 to 9 inches (152 to 229 millimeters)
Mean annual air temperature: 64 to 70 degrees F (18 to 21 degrees C)
Mean annual soil temperature: 66 to 72 degrees F (20 to 23 degrees C)
Frost-free period: 230 to 280 days

Map Unit Composition

Arizo and similar soils: 40 percent
Detrital and similar soils: 30 percent
Nickel and similar soils: 20 percent
Minor components: 10 percent

Properties and Qualities

Arizo soils

Taxonomic classification: Sandy-skeletal, mixed, thermic Typic Torriorthents
Parent material: Alluvium derived from mixed rock sources
Slope: 2 to 6 percent

Surface fragments: About 25 percent coarse gravel
Drainage class: Excessively drained
Permeability: From 6.0 to 20 in/hr (rapid)
Available water capacity total inches: 2.2
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Negligible
Hydrologic group: A
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mojave Desert
Ecological site name: Sandy Loam Upland 6-10" p.z. Limy Subsurface, Gravelly
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB205AZ
Present native vegetation: creosotebush, big galleta, white bursage
Land capability (nonirrigated): 7c

Typical Profile

C1—0 to 6 inches; gravelly loamy sand
C2—6 to 20 inches; extremely gravelly coarse sand
C—20 to 60 inches; extremely gravelly loamy coarse sand

Detrital soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, thermic Typic Haplocambids
Parent material: Alluvium derived from mixed rock sources
Slope: 2 to 6 percent
Surface fragments: About 20 percent coarse gravel, about 2 percent cobbles
Drainage class: Somewhat excessively drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 3.4
Shrink-swell potential: About 1.0 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very low
Hydrologic group: A
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mojave Desert
Ecological site name: Sandy Loam Upland 6-10" p.z. Limy Subsurface, Gravelly
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB205AZ
Present native vegetation: creosotebush, big galleta, white bursage
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 3 inches; gravelly sandy loam
Bw—3 to 24 inches; extremely gravelly sandy loam
B/Ck—24 to 60 inches; very gravelly sandy loam

Nickel soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, thermic Typic Haplocalcids
Parent material: Alluvium derived from mixed rock sources
Slope: 2 to 6 percent
Surface fragments: About 80 percent coarse gravel, about 2 percent cobbles
Drainage class: Well drained
Permeability: From 0.2 to 0.6 in/hr (moderately slow)
Available water capacity total inches: 2.7
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Medium
Hydrologic group: B
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mojave Desert
Ecological site name: Sandy Loam Upland 6-10" p.z. Limy Subsurface, Gravelly
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB205AZ
Present native vegetation: creosotebush, big galleta, white bursage
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 3 inches; extremely gravelly sandy loam
Bw—3 to 19 inches; very gravelly sandy loam
Bk—19 to 60 inches; extremely gravelly sandy loam

6—Arizo-Franconia-Riverwash complex, 1 to 3 percent slopes

Map Unit Setting

Landform: flood plains
Elevation: 2,800 to 3,500 feet (854 to 1,067 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 59 to 64 degrees F (15 to 18 degrees C)

Mean annual soil temperature: 61 to 66 degrees F (17 to 20 degrees C)
Frost-free period: 200 to 230 days

Map Unit Composition

Arizo and similar soils: 40 percent
Franconia and similar soils: 30 percent
Riverwash: 20 percent
Minor components: 10 percent

Properties and Qualities

Arizo soils

Taxonomic classification: Sandy-skeletal, mixed, thermic Typic Torriorthents
Parent material: Alluvium derived from mixed rock sources
Slope: 1 to 3 percent
Drainage class: Excessively drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 2.4
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: Frequent
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very low
Hydrologic group: A
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mojave Desert
Ecological site name: Sandy Wash 6-10" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB218AZ
Present native vegetation: white burrobrush, catclaw acacia, creosotebush
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; gravelly sandy loam
C1—2 to 11 inches; gravelly sandy loam
C2—11 to 15 inches; sandy loam
C3—15 to 35 inches; extremely gravelly loamy sand
C4—35 to 60 inches; very gravelly loamy coarse sand

Franconia soils

Taxonomic classification: Sandy, mixed, thermic Typic Torrifluvents
Parent material: Alluvium derived from mixed rock sources
Slope: 1 to 3 percent
Drainage class: Somewhat excessively drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 4.0
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: Occasional
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very low
Hydrologic group: B
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mojave Desert
Ecological site name: Sandy Wash 6-10" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB218AZ
Present native vegetation: white burrobrush, catclaw acacia, creosotebush
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; sandy loam
C1—2 to 18 inches; loamy sand
C2—18 to 33 inches; stratified loamy sand
C3—33 to 60 inches; gravelly loamy sand

Riverwash

Barren fluvial channels, usually coarse-textured, exposed along narrow drainageways, subject to shifting during flood events.

7—Arizo-Riverwash complex, 0 to 1 percent slopes

Map Unit Setting

Landform: flood plains
Elevation: 2,000 to 2,700 feet (610 to 823 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 64 to 70 degrees F (18 to 21 degrees C)
Mean annual soil temperature: 66 to 72 degrees F (20 to 23 degrees C)
Frost-free period: 230 to 280 days

Map Unit Composition

Arizo and similar soils: 55 percent
Riverwash: 35 percent
Minor components: 10 percent

Properties and Qualities

Arizo soils

Taxonomic classification: Sandy-skeletal, mixed, thermic Typic Torriorthents
Parent material: Alluvium derived from mixed rock sources

Slope: 0 to 1 percent
Surface fragments: About 15 percent coarse gravel
Drainage class: Excessively drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 1.7
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: Very Rare
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very low
Hydrologic group: A
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mojave Desert
Ecological site name: Sandy Wash 6-10" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB218AZ
Present native vegetation: white burrobrush, catclaw acacia, creosotebush
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 1 inch; gravelly sandy loam
C1—1 to 9 inches; loamy coarse sand
C2—9 to 60 inches; extremely gravelly loamy coarse sand

Riverwash

Barren fluvial channels, usually coarse-textured, exposed along narrow drainageways, subject to shifting during flood events.

8—Arizo-Riverwash complex, 1 to 4 percent slopes

Map Unit Setting

Landform: flood plains
Elevation: 2,500 to 4,500 feet (762 to 1,372 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 64 to 70 degrees F (18 to 21 degrees C)
Mean annual soil temperature: 66 to 72 degrees F (20 to 23 degrees C)
Frost-free period: 230 to 280 days

Map Unit Composition

Arizo and similar soils: 50 percent
Riverwash: 25 percent
Minor components: 25 percent

Properties and Qualities

Arizo soils

Taxonomic classification: Sandy-skeletal, mixed, thermic Typic Torriorthents
Parent material: Alluvium derived from mixed rock sources
Slope: 1 to 4 percent
Surface fragments: About 25 percent coarse gravel
Drainage class: Excessively drained
Permeability: From 6.0 to 20 in/hr (rapid)
Available water capacity total inches: 2.2
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: Frequent
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Negligible
Hydrologic group: A
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Sandy Wash 10-13" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC322AZ
Present native vegetation: white burrobrush, catclaw acacia, creosotebush
Land capability (nonirrigated): 7c

Typical Profile

C1—0 to 6 inches; gravelly loamy sand
C2—6 to 20 inches; extremely gravelly coarse sand
C—20 to 60 inches; extremely gravelly loamy coarse sand

Riverwash

Barren fluvial channels, usually coarse-textured, exposed along narrow drainageways, subject to shifting during flood events.

9—Arizo-Riverwash complex, dry, 0 to 1 percent slopes

Map Unit Setting

Landform: flood plains
Elevation: 2,000 to 2,700 feet (610 to 823 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)

Mean annual air temperature: 64 to 70 degrees F (18 to 21 degrees C)
Mean annual soil temperature: 66 to 72 degrees F (20 to 23 degrees C)
Frost-free period: 230 to 280 days

Map Unit Composition

Arizo and similar soils: 60 percent
Riverwash: 30 percent
Minor components: 10 percent

Properties and Qualities

Arizo soils

Taxonomic classification: Sandy-skeletal, mixed, thermic Typic Torriorthents
Parent material: Alluvium derived from mixed rock sources
Slope: 0 to 1 percent
Surface fragments: About 25 percent coarse gravel
Drainage class: Excessively drained
Permeability: From 6.0 to 20 in/hr (rapid)
Available water capacity total inches: 3.1
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: Very Rare
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Negligible
Hydrologic group: A
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mojave Desert
Ecological site name: Sandy Wash 6-10" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB218AZ
Present native vegetation: white burrobrush, catclaw acacia, creosotebush
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 6 inches; gravelly loamy sand
C1—6 to 12 inches; gravelly loamy sand
C2—12 to 60 inches; extremely gravelly sand

Riverwash

Barren fluvial channels, usually coarse-textured, exposed along narrow drainageways, subject to shifting during flood events.

10—Arizo-Riverwash complex, moist, 1 to 3 percent slopes

Map Unit Setting

Landform: flood plains
Elevation: 2,400 to 4,000 feet (732 to 1,219 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 64 to 70 degrees F (18 to 21 degrees C)
Mean annual soil temperature: 66 to 72 degrees F (20 to 23 degrees C)
Frost-free period: 230 to 280 days

Map Unit Composition

Arizo and similar soils: 55 percent
Riverwash: 35 percent
Minor components: 10 percent

Properties and Qualities

Arizo soils

Taxonomic classification: Sandy-skeletal, mixed, thermic Typic Torriorthents
Parent material: Alluvium derived from mixed rock sources
Slope: 1 to 3 percent
Surface fragments: About 70 percent coarse gravel
Drainage class: Excessively drained
Permeability: Greater than 20 in/hr (very rapid)
Available water capacity total inches: 3.0
Shrink-swell potential: About 1.0 LEP (low)
Flooding hazard: Frequent
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Negligible
Hydrologic group: A
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Sandy Wash 10-13" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC322AZ
Present native vegetation: white burrobrush, catclaw acacia, creosotebush
Land capability (nonirrigated): 7c

Typical Profile

C—0 to 60 inches; extremely gravelly sand

Riverwash

Barren fluvial channels, usually coarse-textured, exposed along narrow drainageways, subject to shifting during flood events.

11—Azure-Detrital-Antares complex, 5 to 30 percent slopes

Map Unit Setting

Landform: hills
Elevation: 2,200 to 3,500 feet (671 to 1,067 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 57 to 64 degrees F (14 to 18 degrees C)
Mean annual soil temperature: 59 to 66 degrees F (16 to 20 degrees C)
Frost-free period: 200 to 230 days

Map Unit Composition

Azure and similar soils: 45 percent
Detrital and similar soils: 30 percent
Antares and similar soils: 20 percent
Minor components: 5 percent

Properties and Qualities

Azure soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, thermic, shallow Typic Haplargids
Parent material: Alluvium derived from mixed rock sources
Slope: 5 to 30 percent
Surface fragments: About 50 percent coarse gravel
Depth to restrictive feature: 10 to 20 inches to bedrock (paralithic); 20 to 30 inches to bedrock (lithic)
Drainage class: Somewhat excessively drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 0.6
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Granitic/Schist Upland 10-13" p.z. Alkaline
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC329AZ
Present native vegetation: flattop buckwheat, big galleta, Joshua tree, Nevada Mormon tea
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; very gravelly sandy loam
Bt1—2 to 6 inches; very gravelly sandy loam
Bt2—6 to 10 inches; very gravelly sandy loam
2Cr—10 to 28 inches; weathered bedrock
2R—28 to 28 inches; unweathered bedrock

Detrital soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, thermic Typic Haplocambids
Parent material: Alluvium derived from mixed rock sources
Slope: 5 to 30 percent
Surface fragments: About 40 percent coarse gravel
Drainage class: Somewhat excessively drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 3.6
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Low
Hydrologic group: A
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Sandy Loam Upland 10-13" p.z. Limy, Skeletal
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC318AZ
Present native vegetation: blackbrush, creosotebush, Joshua tree
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; very gravelly sandy loam
Bw1—2 to 27 inches; very gravelly sandy loam
Bw2—27 to 60 inches; very gravelly sandy loam

Antares soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, calcareous, thermic, shallow Typic Torriorthents
Parent material: Alluvium derived from granite
Slope: 5 to 30 percent
Surface fragments: About 30 percent coarse gravel, about 5 percent cobbles, about 2 percent stones

Depth to restrictive feature: 4 to 20 inches to bedrock (paralithic)
Drainage class: Somewhat excessively drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 0.7
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Granitic/Schist Upland 10-13" p.z. Alkaline
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC329AZ
Present native vegetation: flattop buckwheat, big galleta, Joshua tree, Nevada Mormon tea
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 3 inches; very gravelly sandy loam
Bw—3 to 18 inches; very gravelly sandy loam
2Cr—18 to 60 inches; weathered bedrock

12—Birdsbeak very channery loam, 10 to 35 percent slopes

Map Unit Setting

Landform: hills
Elevation: 4,700 to 5,200 feet (1,433 to 1,585 meters)
Mean annual precipitation: 10 to 14 inches (254 to 356 millimeters)
Mean annual air temperature: 52 to 55 degrees F (11 to 13 degrees C)
Mean annual soil temperature: 54 to 57 degrees F (13 to 15 degrees C)
Frost-free period: 150 to 165 days

Map Unit Composition

Birdsbeak and similar soils: 90 percent
Minor components: 10 percent

Properties and Qualities

Birdsbeak soils

Taxonomic classification: Clayey-skeletal, mixed, active, mesic, shallow Ustic Haplargids
Parent material: Alluvium derived from schist
Slope: 10 to 35 percent
Surface fragments: About 10 percent stones, about 40 percent cobbles
Depth to restrictive feature: 4 to 20 inches to bedrock (paralithic)
Drainage class: Well drained
Permeability: From 0.06 to 0.2 in/hr (slow)
Available water capacity total inches: 0.6
Shrink-swell potential: About 7.5 LEP (high)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 38; Mogollon Transition
Land Resource Unit: 38-1AZ; Mogollon Transition Interior Chaparral, Grassland, and Pinyon-Juniper Savannah
Ecological site name: Schist Hills 12-16" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R038XA114AZ
Present native vegetation: turbinella oak, Utah juniper, desert ceanothus, sideoats grama
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 2 inches; very channery loam
Bt1—2 to 4 inches; very channery clay loam
Bt2—4 to 8 inches; very channery clay
2Crt—8 to 20 inches; weathered bedrock
2Cr—20 to 60 inches; weathered bedrock

13—Bluebird-Detrital complex, 2 to 15 percent slopes, very stony

Map Unit Setting

Landform: fan terraces
Elevation: 3,400 to 4,500 feet (1,036 to 1,372 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 59 to 64 degrees F (15 to 18 degrees C)
Mean annual soil temperature: 61 to 66 degrees F (17 to 20 degrees C)
Frost-free period: 200 to 230 days

Map Unit Composition

Bluebird and similar soils: 50 percent
Detrital and similar soils: 40 percent
Minor components: 10 percent

Properties and Qualities

Bluebird soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, thermic Typic Haplargids
Parent material: Alluvium derived from granite
Slope: 2 to 15 percent
Surface fragments: About 20 percent coarse gravel
Drainage class: Well drained
Permeability: From 0.2 to 0.6 in/hr (moderately slow)
Available water capacity total inches: 3.1
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: High
Hydrologic group: C
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Sandy Clay Loam Upland 10-13" p.z. Gravelly
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC302AZ
Present native vegetation: flattop buckwheat, rayless goldenhead, big galleta
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; very stony sandy loam
AB—2 to 5 inches; very gravelly sandy loam
Bt—5 to 30 inches; extremely gravelly sandy clay loam
BC—30 to 60 inches; extremely gravelly coarse sandy loam

Detrital soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, thermic Typic Haplocambids
Parent material: Alluvium derived from mixed rock sources
Slope: 2 to 15 percent
Surface fragments: About 15 percent stones, about 15 percent coarse gravel
Drainage class: Somewhat excessively drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 4.0
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Low
Hydrologic group: A
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Coarse Sandy Loam 10-13" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC305AZ
Present native vegetation: big galleta, black grama, banana yucca, bush muhly, white burrobrush
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 1 inch; very stony sandy loam
BA—1 to 13 inches; gravelly sandy loam
Bw—13 to 60 inches; very gravelly sandy loam

14—Bluebird-Lostman complex, 1 to 5 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 2,840 to 2,900 feet (866 to 884 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 59 to 62 degrees F (15 to 17 degrees C)
Mean annual soil temperature: 61 to 64 degrees F (17 to 19 degrees C)
Frost-free period: 200 to 220 days

Map Unit Composition

Bluebird and similar soils: 70 percent
Lostman and similar soils: 25 percent
Minor components: 5 percent

Properties and Qualities

Bluebird soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, thermic Typic Haplargids
Parent material: Alluvium derived from granite
Slope: 1 to 5 percent
Surface fragments: About 45 percent coarse gravel
Drainage class: Well drained
Permeability: From 0.2 to 0.6 in/hr (moderately slow)
Available water capacity total inches: 5.5
Shrink-swell potential: About 1.0 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: High
Hydrologic group: C
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mojave Desert
Ecological site name: Limy Fan 6-10" p.z.

Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB211AZ
Present native vegetation: big galleta, white bursage, creosotebush, Joshua tree
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; loam
AB—2 to 8 inches; gravelly sandy clay loam
Bt1—8 to 20 inches; gravelly sandy clay loam
Bt—20 to 60 inches; very gravelly sandy clay loam

Lostman soils

Taxonomic classification: Coarse-loamy, mixed, superactive, thermic Typic Haplocambids
Parent material: Alluvium derived from mixed rock sources
Slope: 1 to 5 percent
Surface fragments: About 20 percent coarse gravel
Drainage class: Well drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 7.1
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very low
Hydrologic group: B
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mojave Desert
Ecological site name: Sandy Loam Upland 6-10" p.z. Limy Subsurface, Gravelly
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB205AZ
Present native vegetation: creosotebush, big galleta, white bursage
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 3 inches; gravelly sandy loam
Bw1—3 to 12 inches; gravelly sandy loam
Bw2—12 to 57 inches; gravelly loam
2Bt—57 to 68 inches; gravelly sandy clay loam

15—Carrizo complex, 1 to 5 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 650 to 2,000 feet (198 to 610 meters)
Mean annual precipitation: 3 to 6 inches (76 to 152 millimeters)
Mean annual air temperature: 70 to 74 degrees F (21 to 23 degrees C)
Mean annual soil temperature: 72 to 76 degrees F (23 to 25 degrees C)
Frost-free period: 280 to 320 days

Map Unit Composition

Carrizo and similar soils: 75 percent
Carrizo and similar soils: 20 percent
Minor components: 5 percent

Properties and Qualities

Carrizo soils

Taxonomic classification: Sandy-skeletal, mixed, hyperthermic Typic Torriorthents
Parent material: Alluvium derived from mixed rock sources
Slope: 1 to 5 percent
Surface fragments: About 65 percent coarse gravel
Drainage class: Excessively drained
Permeability: From 6.0 to 20 in/hr (rapid)
Available water capacity total inches: 1.6
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Negligible
Hydrologic group: A
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-1AZ; Lower Mojave Desert
Ecological site name: Limy Upland 3-6" p.z. Deep
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XA109AZ
Present native vegetation: creosotebush, white bursage
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 1 inch; extremely gravelly sandy loam
C1—1 to 4 inches; gravelly sandy loam
C2—4 to 60 inches; extremely gravelly loamy sand

Carrizo soils

Taxonomic classification: Sandy-skeletal, mixed, hyperthermic Typic Torriorthents
Parent material: Alluvium derived from mixed rock sources
Slope: 1 to 2 percent
Surface fragments: About 65 percent coarse gravel
Drainage class: Excessively drained

Permeability: From 6.0 to 20 in/hr (rapid)
Available water capacity total inches: 1.3
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: Very Rare
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Negligible
Hydrologic group: A
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-1AZ; Lower Mojave Desert
Ecological site name: Limy Upland 3-6" p.z. Deep
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XA109AZ
Present native vegetation: creosotebush, white bursage
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; extremely gravelly sandy loam
C1—2 to 60 inches; extremely gravelly loamy sand

16—Carrizo-Riverwash complex, 0 to 1 percent slopes

Map Unit Setting

Landform: flood plains
Elevation: 650 to 2,000 feet (198 to 610 meters)
Mean annual precipitation: 3 to 6 inches (76 to 152 millimeters)
Mean annual air temperature: 70 to 78 degrees F (21 to 26 degrees C)
Mean annual soil temperature: 72 to 80 degrees F (23 to 28 degrees C)
Frost-free period: 280 to 320 days

Map Unit Composition

Carrizo and similar soils: 75 percent
Riverwash: 15 percent
Minor components: 10 percent

Properties and Qualities

Carrizo soils

Taxonomic classification: Sandy-skeletal, mixed, hyperthermic Typic Torriorthents
Parent material: Alluvium derived from mixed rock sources
Slope: 0 to 1 percent
Surface fragments: About 15 percent coarse gravel
Drainage class: Excessively drained
Permeability: From 6.0 to 20 in/hr (rapid)
Available water capacity total inches: 1.6
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: Very Rare
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Negligible
Hydrologic group: A
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-1AZ; Lower Mojave Desert
Ecological site name: Sandy Wash 3-6" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XA115AZ
Present native vegetation: creosotebush, white bursage, white burrobrush
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; gravelly loamy sand
C1—2 to 6 inches; very gravelly loamy coarse sand
C2—6 to 17 inches; gravelly loamy sand
C3—17 to 60 inches; extremely gravelly loamy sand

Riverwash

Barren fluvial channels, usually coarse-textured, exposed along narrow drainageways, subject to shifting during flood events.

17—Carrizo-Riverwash complex, 3 to 8 percent slopes

Map Unit Setting

Landform: flood plains
Elevation: 750 to 2,000 feet (229 to 610 meters)
Mean annual precipitation: 3 to 6 inches (76 to 152 millimeters)
Mean annual air temperature: 70 to 78 degrees F (21 to 26 degrees C)
Mean annual soil temperature: 72 to 80 degrees F (23 to 28 degrees C)
Frost-free period: 280 to 320 days

Map Unit Composition

Carrizo and similar soils: 75 percent
Riverwash: 15 percent
Minor components: 10 percent

Properties and Qualities

Carrizo soils

Taxonomic classification: Sandy-skeletal, mixed, hyperthermic Typic Torriorthents

Parent material: Alluvium derived from mixed rock sources
Slope: 3 to 8 percent
Surface fragments: About 70 percent coarse gravel, about 5 percent cobbles, about 2 percent stones
Drainage class: Excessively drained
Permeability: From 6.0 to 20 in/hr (rapid)
Available water capacity total inches: 1.2
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: Very Rare
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very low
Hydrologic group: A
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-1AZ; Lower Mojave Desert
Ecological site name: Sandy Wash 3-6" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XA115AZ
Present native vegetation: creosotebush, white bursage, white burrobrush
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 1 inch; extremely gravelly loamy sand
C1—1 to 23 inches; extremely gravelly loamy sand
C2—23 to 60 inches; extremely gravelly sand

Riverwash

Barren fluvial channels, usually coarse-textured, exposed along narrow drainageways, subject to shifting during flood events.

18—Chuckawalla-Riverbend complex, 2 to 15 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 600 to 1,800 feet (183 to 549 meters)
Mean annual precipitation: 3 to 6 inches (76 to 152 millimeters)
Mean annual air temperature: 70 to 74 degrees F (21 to 23 degrees C)
Mean annual soil temperature: 72 to 76 degrees F (23 to 25 degrees C)
Frost-free period: 270 to 320 days

Map Unit Composition

Chuckawalla and similar soils: 65 percent
Riverbend and similar soils: 25 percent
Minor components: 10 percent

Properties and Qualities

Chuckawalla soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, hyperthermic Typic Calciargids
Parent material: Alluvium derived from mixed rock sources
Slope: 2 to 15 percent
Surface fragments: About 15 percent cobbles, about 75 percent coarse gravel
Drainage class: Well drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 3.4
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Medium
Hydrologic group: B
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: Unspecified
Other ecological sites may occur in this map unit and vary in extent between delineations.
Land capability (nonirrigated): 7c

Typical Profile

E—0 to 1 inch; extremely gravelly silt loam
Btz—1 to 5 inches; gravelly loam
Btkz—5 to 20 inches; very gravelly loam
Ck1—20 to 29 inches; extremely gravelly loamy sand
Ck2—29 to 34 inches; very gravelly sandy loam
Ck3—34 to 60 inches; very gravelly loamy sand

Riverbend soils

Taxonomic classification: Sandy-skeletal, mixed, hyperthermic Typic Haplocalcids
Parent material: Alluvium derived from mixed rock sources
Slope: 2 to 15 percent
Surface fragments: About 25 percent cobbles, about 30 percent coarse gravel
Drainage class: Excessively drained
Permeability: From 6.0 to 20 in/hr (rapid)
Available water capacity total inches: 2.6
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very low
Hydrologic group: A
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-1AZ; Lower Mojave Desert

Ecological site name: Limy Upland 3-6" p.z. Deep
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XA109AZ
Present native vegetation: creosotebush, white bursage
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; very cobbly sandy loam
Bw—2 to 7 inches; very gravelly sandy loam
Bk1—7 to 18 inches; very cobbly loamy sand
Bk2—18 to 34 inches; very gravelly loamy sand
Bk3—34 to 60 inches; very gravelly sand

19—Circular complex, 1 to 3 percent slopes

Map Unit Setting

Landform: basin floors
Elevation: 2,500 to 4,000 feet (762 to 1,219 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 62 to 68 degrees F (17 to 20 degrees C)
Mean annual soil temperature: 64 to 70 degrees F (19 to 22 degrees C)
Frost-free period: 180 to 265 days

Map Unit Composition

Circular and similar soils: 45 percent
Circular and similar soils: 40 percent
Minor components: 15 percent

Properties and Qualities

Circular soils

Taxonomic classification: Coarse-loamy, mixed, superactive, calcareous, thermic Typic Torriorthents
Parent material: Alluvium derived from mixed rock sources
Slope: 1 to 3 percent
Surface fragments: About 5 percent coarse gravel
Drainage class: Somewhat excessively drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 9.6
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very low
Hydrologic group: B
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mojave Desert
Ecological site name: Sandy Loam Upland 6-10" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB228AZ
Present native vegetation: big galleta, rayless goldenhead, white burrobrush
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 4 inches; loam
C1—4 to 27 inches; loam
C2—27 to 60 inches; loam

Circular soils

Taxonomic classification: Coarse-loamy, mixed, superactive, calcareous, thermic Typic Torriorthents
Parent material: Alluvium derived from mixed rock sources
Slope: 1 to 3 percent
Surface fragments: About 20 percent coarse gravel
Drainage class: Somewhat excessively drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 5.2
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very low
Hydrologic group: B
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mojave Desert
Ecological site name: Loamy Upland 6-10" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB209AZ
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 3 inches; sandy loam
C1—3 to 11 inches; sandy loam
C2—11 to 22 inches; sandy loam
C3—22 to 36 inches; gravelly sandy loam
C4—36 to 45 inches; gravelly sandy loam
C5—45 to 60 inches; gravelly loamy sand

20—Circular-Dusty complex, 0 to 4 percent slopes

Map Unit Setting

Landform: basin floors

Elevation: 2,700 to 3,100 feet (823 to 945 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 57 to 70 degrees F (14 to 21 degrees C)
Mean annual soil temperature: 59 to 72 degrees F (16 to 23 degrees C)
Frost-free period: 200 to 280 days

Map Unit Composition

Circular and similar soils: 50 percent
Dusty and similar soils: 30 percent
Minor components: 20 percent

Properties and Qualities

Circular soils

Taxonomic classification: Coarse-loamy, mixed, superactive, calcareous, thermic Typic Torriorthents
Parent material: Alluvium derived from mixed rock sources
Slope: 1 to 4 percent
Surface fragments: About 5 percent coarse gravel
Drainage class: Somewhat excessively drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 6.6
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very low
Hydrologic group: B
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mojave Desert
Ecological site name: Sandy Loam Upland 6-10" p.z. Limy
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB215AZ
Present native vegetation: big galleta, fourwing saltbush, shadscale saltbush, winterfat
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; sandy loam
C1—2 to 35 inches; sandy loam
C2—35 to 44 inches; sandy loam
C3—44 to 60 inches; loamy sand

Dusty soils

Taxonomic classification: Fine-loamy, mixed, superactive, thermic Typic Natrargids
Parent material: Alluvium derived from mixed rock sources
Slope: 0 to 1 percent
Surface fragments: About 3 percent coarse gravel
Drainage class: Well drained
Permeability: From 0.001 to 0.06 in/hr (very slow)
Available water capacity total inches: 9.0
Shrink-swell potential: About 4.5 LEP (moderate)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: High
Hydrologic group: C
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mojave Desert
Ecological site name: Loamy Swale 6-10" p.z. Sodic
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB229AZ
Present native vegetation: big galleta, shadscale saltbush, alkali sacaton
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; sandy loam
Bt—2 to 4 inches; loam
Btkn—4 to 20 inches; clay loam
Bk1—20 to 35 inches; sandy clay loam
Bk2—35 to 60 inches; loam

21—Cod gravelly sandy loam, 2 to 6 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 2,600 to 2,800 feet (792 to 854 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 57 to 70 degrees F (14 to 21 degrees C)
Mean annual soil temperature: 59 to 72 degrees F (16 to 23 degrees C)
Frost-free period: 200 to 280 days

Map Unit Composition

Cod and similar soils: 90 percent
Minor components: 10 percent

Properties and Qualities

Cod soils

Taxonomic classification: Coarse-loamy, mixed, superactive, thermic Durinodic Haplocalcids

Parent material: Alluvium derived from limestone and granite
Slope: 2 to 6 percent
Surface fragments: About 20 percent coarse gravel
Drainage class: Well drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 5.0
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very low
Hydrologic group: B
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mojave Desert
Ecological site name: Sandy Loam Upland 6-10" p.z. Limy Subsurface, Gravelly
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB205AZ
Present native vegetation: creosotebush, big galleta, white bursage
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; gravelly sandy loam
Bw—2 to 14 inches; gravelly sandy loam
Bkq—14 to 20 inches; gravelly sandy loam
Bk1—20 to 48 inches; gravelly sandy loam
Bk2—48 to 60 inches; very gravelly sandy loam

22—Cordes-Manikan-Riverwash complex, 1 to 6 percent slopes

Map Unit Setting

Landform: flood plains
Elevation: 5,000 to 5,200 feet (1,524 to 1,585 meters)
Mean annual precipitation: 14 to 18 inches (356 to 457 millimeters)
Mean annual air temperature: 48 to 52 degrees F (9 to 11 degrees C)
Mean annual soil temperature: 50 to 54 degrees F (11 to 13 degrees C)
Frost-free period: 135 to 150 days

Map Unit Composition

Cordes and similar soils: 45 percent
Manikan and similar soils: 25 percent
Riverwash: 10 percent
Minor components: 20 percent

Properties and Qualities

Cordes soils

Taxonomic classification: Coarse-loamy, mixed, superactive, nonacid, mesic Ustic Torrifluvents
Parent material: Alluvium derived from mixed rock sources
Slope: 1 to 6 percent
Drainage class: Well drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 4.9
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: Frequent
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very low
Hydrologic group: B
Major Land Resource Area: 38; Mogollon Transition
Land Resource Unit: 38-1AZ; Mogollon Transition Interior Chaparral, Grassland, and Pinyon-Juniper Savannah
Ecological site name: Sandy Bottom 12-16" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R038XA111AZ
Present native vegetation: Sporobolus, narrowleaf cottonwood, Arizona sycamore, Fremont cottonwood, sideoats grama
Land capability (irrigated): 4w

Typical Profile

A—0 to 2 inches; sandy loam
C1—2 to 32 inches; sandy loam
C2—32 to 60 inches; very gravelly sandy loam

Manikan soils

Taxonomic classification: Fine-loamy, mixed, superactive, nonacid, mesic Aridic Ustifluvents
Parent material: Alluvium derived from mixed rock sources
Slope: 1 to 6 percent
Drainage class: Well drained
Permeability: From 0.2 to 0.6 in/hr (moderately slow)
Available water capacity total inches: 8.8
Shrink-swell potential: About 4.5 LEP (moderate)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Medium
Hydrologic group: B
Major Land Resource Area: 38; Mogollon Transition

Land Resource Unit: 38-1AZ; Mogollon Transition Interior Chaparral, Grassland, and Pinyon-Juniper Savannah
Ecological site name: Loamy Bottom 12-16" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R038XA107AZ
Present native vegetation: sideoats grama, western wheatgrass, blue grama
Land capability (irrigated): 3e

Typical Profile

A—0 to 3 inches; sandy loam
C1—3 to 24 inches; sandy clay loam
C2—24 to 39 inches; sandy clay loam
C3—39 to 60 inches; loam

Riverwash

Barren fluvial channels, usually coarse-textured, exposed along narrow drainageways, subject to shifting during flood events.

23—Cupel-Rock outcrop complex, 35 to 65 percent slopes

Map Unit Setting

Landform: hills and mountains
Elevation: 3,500 to 4,500 feet (1,067 to 1,372 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 57 to 70 degrees F (14 to 21 degrees C)
Mean annual soil temperature: 59 to 72 degrees F (16 to 23 degrees C)
Frost-free period: 200 to 280 days

Map Unit Composition

Cupel and similar soils: 60 percent
Rock outcrop: 20 percent
Minor components: 20 percent

Properties and Qualities

Cupel soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, thermic Lithic Haplocambids
Parent material: Alluvium and colluvium derived from volcanic rock
Slope: 35 to 65 percent
Surface fragments: About 50 percent coarse gravel, about 20 percent cobbles, about 20 percent stones, about 2 percent boulders
Depth to restrictive feature: 10 to 20 inches to bedrock (lithic)
Drainage class: Well drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 0.9
Shrink-swell potential: About 4.5 LEP (moderate)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Volcanic Hills 10-13" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC332AZ
Present native vegetation: flattop buckwheat, big galleta, California juniper, blackbrush
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; very gravelly sandy loam
Bw1—2 to 12 inches; extremely gravelly sandy clay loam
Bw2—12 to 17 inches; extremely gravelly sandy clay loam
2R—17 inches; unweathered bedrock

Rock outcrop

Exposures of bedrock, typically barren but may have sparse vegetation growing in cracks and crevices or in thin layers of alluvium or colluvium.

24—Cyclopic very stony loam, 3 to 8 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 4,000 to 4,200 feet (1,219 to 1,280 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 59 to 64 degrees F (15 to 18 degrees C)
Mean annual soil temperature: 61 to 66 degrees F (17 to 20 degrees C)
Frost-free period: 200 to 230 days

Map Unit Composition

Cyclopic and similar soils: 80 percent
Minor components: 20 percent

Properties and Qualities

Cyclopic soils

Taxonomic classification: Clayey-skeletal, smectitic, thermic Typic Argidurids
Parent material: Alluvium derived from granite and basalt
Slope: 3 to 8 percent
Surface fragments: About 20 percent coarse gravel, about 10 percent cobbles, about 20 percent stones, about 2 percent boulders
Depth to restrictive feature: 20 to 40 inches to duripan
Drainage class: Well drained
Permeability: From 0.06 to 0.2 in/hr (slow)
Available water capacity total inches: 1.9
Shrink-swell potential: About 4.5 LEP (moderate)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Sandy Loam Upland 10-13" p.z. Fine, Stony
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC303AZ
Present native vegetation: big galleta, flattop buckwheat, turpentine bush, broom snakeweed
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; very stony sandy loam
Bt1—2 to 5 inches; very stony sandy clay loam
Bt—5 to 25 inches; very stony clay
Bkqm—25 to 60 inches; indurated

25—Deluge-Gotchell-Sunstroke complex, 3 to 7 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 2,200 to 2,700 feet (671 to 823 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 57 to 70 degrees F (14 to 21 degrees C)
Mean annual soil temperature: 59 to 72 degrees F (16 to 23 degrees C)
Frost-free period: 200 to 280 days

Map Unit Composition

Deluge and similar soils: 50 percent
Gotchell and similar soils: 17 percent
Sunstroke and similar soils: 13 percent
Minor components: 20 percent

Properties and Qualities

Deluge soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, thermic Typic Argidurids
Parent material: Alluvium derived from mixed rock sources
Slope: 3 to 7 percent
Surface fragments: About 85 percent coarse gravel, about 10 percent cobbles
Depth to restrictive feature: 20 to 40 inches to duripan; 30 to 60 inches to bedrock (lithic)
Drainage class: Well drained
Permeability: From 0.2 to 0.6 in/hr (moderately slow)
Available water capacity total inches: 1.9
Shrink-swell potential: About 4.5 LEP (moderate)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: C
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mojave Desert
Ecological site name: Limy Upland 6-10" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB214AZ
Present native vegetation: creosotebush, white bursage, big galleta
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; very gravelly sandy loam
Bt1—2 to 8 inches; very gravelly sandy clay loam
Bt2—8 to 18 inches; very gravelly sandy clay loam
Btk—18 to 24 inches; very gravelly sandy clay loam
2Bkqm—24 to 52 inches; indurated
2R—52 inches; unweathered bedrock

Gotchell soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, thermic, shallow Typic Haplodurids
Parent material: Alluvium derived from granite
Slope: 3 to 7 percent
Surface fragments: About 70 percent coarse gravel

Depth to restrictive feature: 4 to 20 inches to duripan; 15 to 60 inches to bedrock (lithic)
Drainage class: Somewhat excessively drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 0.6
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mojave Desert
Ecological site name: Limy Upland 6-10" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB214AZ
Present native vegetation: creosotebush, white bursage, big galleta
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; extremely gravelly sandy loam
Bw—2 to 14 inches; extremely gravelly sandy loam
Bkqm—14 to 28 inches; indurated
2R—28 inches; unweathered bedrock

Sunstroke soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, thermic Typic Haplodurids
Parent material: Alluvium derived from mixed rock sources
Slope: 3 to 7 percent
Surface fragments: About 70 percent coarse gravel
Depth to restrictive feature: 20 to 40 inches to duripan; 30 to 60 inches to bedrock (lithic)
Drainage class: Somewhat excessively drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 1.0
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mojave Desert
Ecological site name: Limy Upland 6-10" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB214AZ
Present native vegetation: creosotebush, white bursage, big galleta
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; extremely gravelly sandy loam
Bw—2 to 18 inches; extremely gravelly sandy loam
Bk—18 to 24 inches; extremely gravelly sandy loam
Bkqm—24 to 45 inches; indurated
2R—45 inches; unweathered bedrock

26—Detrital-Bluebird complex, 2 to 12 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 3,000 to 4,500 feet (914 to 1,372 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 59 to 70 degrees F (15 to 21 degrees C)
Mean annual soil temperature: 61 to 72 degrees F (17 to 23 degrees C)
Frost-free period: 200 to 280 days

Map Unit Composition

Detrital and similar soils: 45 percent
Bluebird and similar soils: 35 percent
Minor components: 20 percent

Properties and Qualities

Detrital soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, thermic Typic Haplocambids
Parent material: Alluvium derived from granite
Slope: 2 to 12 percent
Surface fragments: About 25 percent coarse gravel
Drainage class: Somewhat excessively drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 3.6
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Low
Hydrologic group: A
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Limy Upland 10-13" p.z. Deep
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC313AZ

Present native vegetation: big galleta, creosotebush, white burrobrush, Canotia, banana yucca, rayless goldenhead
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; very gravelly sandy loam
Bw—2 to 60 inches; very gravelly sandy loam

Bluebird soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, thermic Typic Haplargids
Parent material: Alluvium derived from granite
Slope: 2 to 12 percent
Surface fragments: About 30 percent coarse gravel
Drainage class: Well drained
Permeability: From 0.2 to 0.6 in/hr (moderately slow)
Available water capacity total inches: 4.0
Shrink-swell potential: About 4.5 LEP (moderate)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: High
Hydrologic group: C
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Sandy Clay Loam Upland 10-13" p.z. Gravelly
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC302AZ
Present native vegetation: flattop buckwheat, rayless goldenhead, big galleta
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 3 inches; very gravelly sandy clay loam
Bt—3 to 18 inches; extremely gravelly sandy clay loam
2Bw—18 to 44 inches; extremely gravelly coarse sandy loam
2Btkb—44 to 60 inches; very gravelly sandy clay loam

27—Detrital-Nealy complex, 1 to 6 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 3,300 to 4,300 feet (1,006 to 1,311 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 59 to 70 degrees F (15 to 21 degrees C)
Mean annual soil temperature: 61 to 72 degrees F (17 to 23 degrees C)
Frost-free period: 200 to 230 days

Map Unit Composition

Detrital and similar soils: 55 percent
Nealy and similar soils: 35 percent
Minor components: 10 percent

Properties and Qualities

Detrital soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, thermic Typic Haplocambids
Parent material: Alluvium derived from mixed rock sources
Slope: 1 to 6 percent
Surface fragments: About 25 percent coarse gravel
Drainage class: Somewhat excessively drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 3.4
Shrink-swell potential: About 1.0 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very low
Hydrologic group: A
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Limy Upland 10-13" p.z. Deep
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC313AZ
Present native vegetation: big galleta, creosotebush, white burrobrush, Canotia, banana yucca, rayless goldenhead
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; gravelly sandy loam
Bw1—2 to 14 inches; gravelly sandy loam
Bw2—14 to 45 inches; extremely gravelly coarse sandy loam
Bw3—45 to 60 inches; extremely gravelly coarse sandy loam

Nealy soils

Taxonomic classification: Fine-loamy, mixed, superactive, thermic Typic Argidurids
Parent material: Alluvium derived from igneous and metamorphic rock
Slope: 2 to 6 percent

Surface fragments: About 30 percent coarse gravel
Depth to restrictive feature: 20 to 40 inches to duripan
Drainage class: Well drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 3.3
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: B
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Limy Upland 10-13" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC311AZ
Present native vegetation: Juniperus, broom snakeweed, Yucca
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; gravelly loam
Bw—2 to 14 inches; gravelly sandy loam
Btk—14 to 33 inches; gravelly sandy clay loam
Bkqm—33 to 48 inches; indurated
2C—48 to 60 inches; extremely gravelly sand

28—Detrital-Nickel complex, dry, 1 to 6 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 2,500 to 3,200 feet (762 to 975 meters)
Mean annual precipitation: 6 to 9 inches (152 to 229 millimeters)
Mean annual air temperature: 64 to 70 degrees F (18 to 21 degrees C)
Mean annual soil temperature: 66 to 72 degrees F (20 to 23 degrees C)
Frost-free period: 230 to 280 days

Map Unit Composition

Detrital and similar soils: 60 percent
Nickel and similar soils: 35 percent
Minor components: 5 percent

Properties and Qualities

Detrital soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, thermic Typic Haplocambids
Parent material: Alluvium derived from mixed rock sources
Slope: 1 to 6 percent
Surface fragments: About 20 percent coarse gravel
Drainage class: Somewhat excessively drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 3.6
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very low
Hydrologic group: A
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mojave Desert
Ecological site name: Sandy Loam Upland 6-10" p.z. Limy Subsurface, Gravelly
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB205AZ
Present native vegetation: creosotebush, big galleta, white bursage
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; gravelly sandy loam
Bw—2 to 60 inches; very gravelly sandy loam

Nickel soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, thermic Typic Haplocalcids
Parent material: Alluvium derived from mixed rock sources
Slope: 1 to 6 percent
Surface fragments: About 30 percent coarse gravel
Depth to restrictive feature: 20 to 40 inches to cemented horizon
Drainage class: Well drained
Permeability: From 0.2 to 0.6 in/hr (moderately slow)
Available water capacity total inches: 1.5
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Medium
Hydrologic group: B
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mojave Desert
Ecological site name: Sandy Loam Upland 6-10" p.z. Limy Subsurface, Gravelly
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB205AZ

Present native vegetation: creosotebush, big galleta, white bursage
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; very gravelly sandy loam
Bw1—2 to 11 inches; very gravelly sandy loam
2Bw2—11 to 28 inches; extremely gravelly loamy sand
3Bk1—28 to 46 inches; extremely gravelly sandy loam
3Bk2—46 to 60 inches; extremely gravelly loamy sand

29—Detrital-Nickel family complex, 1 to 4 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 2,400 to 3,500 feet (732 to 1,067 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 59 to 70 degrees F (15 to 21 degrees C)
Mean annual soil temperature: 61 to 72 degrees F (17 to 23 degrees C)
Frost-free period: 200 to 280 days

Map Unit Composition

Detrital and similar soils: 60 percent
Nickel family and similar soils: 25 percent
Minor components: 15 percent

Properties and Qualities

Detrital soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, thermic Typic Haplocambids
Parent material: Alluvium derived from mixed rock sources
Slope: 1 to 4 percent
Surface fragments: About 15 percent stones, about 15 percent coarse gravel
Drainage class: Somewhat excessively drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 3.6
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very low
Hydrologic group: A
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mojave Desert
Ecological site name: Sandy Loam Upland 6-10" p.z. Limy Subsurface, Gravelly
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB205AZ
Present native vegetation: creosotebush, big galleta, white bursage
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 1 inch; gravelly sandy loam
Bw1—1 to 13 inches; gravelly sandy loam
Bw2—13 to 26 inches; very gravelly sandy loam
Bw3—26 to 60 inches; extremely gravelly sandy loam

Nickel family soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, thermic Typic Haplocalcids
Parent material: Alluvium derived from mixed rock sources
Slope: 1 to 4 percent
Surface fragments: About 25 percent coarse gravel
Depth to restrictive feature: 40 to 60 inches to petrocalcic
Drainage class: Well drained
Permeability: From 0.2 to 0.6 in/hr (moderately slow)
Available water capacity total inches: 3.2
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Medium
Hydrologic group: B
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mojave Desert
Ecological site name: Sandy Loam Upland 6-10" p.z. Limy Subsurface, Gravelly
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB205AZ
Present native vegetation: creosotebush, big galleta, white bursage
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; gravelly sandy loam
Bk1—2 to 21 inches; gravelly sandy loam
Bk2—21 to 42 inches; very gravelly sandy loam
Bkqm—42 to 60 inches; indurated

30—Detrital-Skelon family complex, 1 to 5 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 3,700 to 4,000 feet (1,128 to 1,219 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 59 to 64 degrees F (15 to 18 degrees C)
Mean annual soil temperature: 61 to 66 degrees F (17 to 20 degrees C)
Frost-free period: 200 to 230 days

Map Unit Composition

Detrital and similar soils: 50 percent
Skelon family and similar soils: 30 percent
Minor components: 20 percent

Properties and Qualities

Detrital soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, thermic Typic Haplocambids
Parent material: Alluvium derived from mixed rock sources
Slope: 1 to 5 percent
Surface fragments: About 25 percent coarse gravel
Drainage class: Somewhat excessively drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 3.6
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very low
Hydrologic group: A
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Sandy Loam Upland 10-13" p.z. Limy, Skeletal
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC318AZ
Present native vegetation: blackbrush, creosotebush, Joshua tree
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; very gravelly sandy loam
Bw—2 to 60 inches; very gravelly sandy loam

Skelon family soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, thermic Typic Haplodurids
Parent material: Alluvium derived from mixed rock sources
Slope: 1 to 5 percent
Surface fragments: About 40 percent coarse gravel
Depth to restrictive feature: 20 to 40 inches to duripan
Drainage class: Well drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 1.8
Shrink-swell potential: About 1.0 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: High
Hydrologic group: C
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Sandy Loam Upland 10-13" p.z. Limy, Skeletal
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC318AZ
Present native vegetation: blackbrush, creosotebush, Joshua tree
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; very gravelly sandy loam
Bw—2 to 22 inches; very gravelly sandy loam
Bkqm—22 to 60 inches; indurated

31—Dusty-Kurstan family complex, 1 to 6 percent slopes

Map Unit Setting

Landform: basin floors
Elevation: 2,800 to 3,400 feet (854 to 1,036 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 59 to 64 degrees F (15 to 18 degrees C)
Mean annual soil temperature: 61 to 66 degrees F (17 to 20 degrees C)
Frost-free period: 200 to 230 days

Map Unit Composition

Dusty and similar soils: 70 percent
Kurstan family and similar soils: 15 percent

Minor components: 15 percent

Properties and Qualities

Dusty soils

Taxonomic classification: Fine-loamy, mixed, superactive, thermic Typic Natrargids
Parent material: Alluvium derived from mixed rock sources
Slope: 1 to 6 percent
Surface fragments: About 3 percent coarse gravel
Drainage class: Well drained
Permeability: From 0.001 to 0.06 in/hr (very slow)
Available water capacity total inches: 10.2
Shrink-swell potential: About 4.5 LEP (moderate)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: C
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mojave Desert
Ecological site name: Loamy Swale 6-10" p.z. Sodic
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB229AZ
Present native vegetation: big galleta, shadscale saltbush, alkali sacaton
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; sandy loam
Bw—2 to 6 inches; loam
Bt—6 to 10 inches; loam
Btkn—10 to 19 inches; clay loam
Bk1—19 to 24 inches; sandy clay loam
Bk2—24 to 31 inches; sandy clay loam
Bk3—31 to 50 inches; clay loam
C—50 to 60 inches; sandy loam

Kurstan family soils

Taxonomic classification: Coarse-loamy, mixed, superactive, thermic Durinodic Haplocalcids
Parent material: Alluvium derived from mixed rock sources
Slope: 1 to 6 percent
Surface fragments: About 2 percent coarse gravel
Drainage class: Well drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 6.4
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very low
Hydrologic group: B
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mojave Desert
Ecological site name: Sandy Loam Upland 6-10" p.z. Limy
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB215AZ
Present native vegetation: big galleta, fourwing saltbush, shadscale saltbush, winterfat
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 3 inches; sandy loam
Bw—3 to 18 inches; sandy loam
Bk1—18 to 26 inches; sandy loam
Bk2—26 to 58 inches; sandy loam
C—58 to 60 inches; extremely gravelly sand

32—Dutchflat sandy loam, 0 to 2 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 2,800 to 4,800 feet (854 to 1,463 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 62 to 68 degrees F (17 to 20 degrees C)
Mean annual soil temperature: 64 to 70 degrees F (19 to 22 degrees C)
Frost-free period: 200 to 250 days

Map Unit Composition

Dutchflat and similar soils: 80 percent
Minor components: 20 percent

Properties and Qualities

Dutchflat soils

Taxonomic classification: Fine-loamy, mixed, superactive, thermic Typic Haplargids
Parent material: Alluvium derived from igneous and metamorphic rock
Slope: 0 to 2 percent
Drainage class: Well drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 7.7
Shrink-swell potential: About 4.5 LEP (moderate)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet

Runoff class: Low
Hydrologic group: B
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mojave Desert
Ecological site name: Sandy Loam Upland 6-10" p.z. Fine
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB226AZ
Present native vegetation: big galleta, white burrobrush
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 4 inches; sandy loam
Bt—4 to 37 inches; sandy clay loam
C—37 to 60 inches; coarse sandy loam

33—Dye-Tovar-Rock outcrop complex, 6 to 25 percent slopes

Map Unit Setting

Landform: hills
Elevation: 5,000 to 5,800 feet (1,524 to 1,768 meters)
Mean annual precipitation: 14 to 18 inches (356 to 457 millimeters)
Mean annual air temperature: 48 to 52 degrees F (9 to 11 degrees C)
Mean annual soil temperature: 50 to 54 degrees F (11 to 13 degrees C)
Frost-free period: 135 to 150 days

Map Unit Composition

Dye and similar soils: 50 percent
Tovar and similar soils: 20 percent
Rock outcrop: 15 percent
Minor components: 15 percent

Properties and Qualities

Dye soils

Taxonomic classification: Clayey, smectitic, mesic Lithic Haplustalfs
Parent material: Alluvium derived from limestone over residuum weathered from limestone
Slope: 6 to 25 percent
Surface fragments: About 30 percent stones, about 50 percent cobbles
Depth to restrictive feature: 10 to 20 inches to bedrock (lithic)
Drainage class: Well drained
Permeability: From 0.06 to 0.2 in/hr (slow)
Available water capacity total inches: 1.9
Shrink-swell potential: About 7.5 LEP (high)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 35; Colorado Plateaus
Land Resource Unit: 35-6AZ; Colorado Plateaus Pinyon-Juniper Woodland and Shrubland
Ecological site name: Juniperus osteosperma-Pinus/Purshia stansburiana-Quercus turbinella/Bouteloua curtipendula-Poa fendleriana
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: F035XF619AZ
Present native vegetation: Utah juniper, singleleaf pinyon, turbinella oak
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 2 inches; very channery clay loam
Bt—2 to 13 inches; clay
2R—13 inches; unweathered bedrock

Tovar soils

Taxonomic classification: Fine, smectitic, mesic Vertic Haplustalfs
Parent material: Alluvium derived from limestone over residuum weathered from limestone
Slope: 6 to 25 percent
Surface fragments: About 50 percent coarse gravel, about 10 percent cobbles, about 5 percent stones
Depth to restrictive feature: 20 to 40 inches to bedrock (lithic)
Drainage class: Well drained
Permeability: From 0.001 to 0.06 in/hr (very slow)
Available water capacity total inches: 5.1
Shrink-swell potential: About 7.5 LEP (high)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: C
Major Land Resource Area: 35; Colorado Plateaus
Land Resource Unit: 35-6AZ; Colorado Plateaus Pinyon-Juniper Woodland and Shrubland
Ecological site name: Juniperus osteosperma-Pinus/Purshia stansburiana-Quercus turbinella/Bouteloua curtipendula-Poa fendleriana
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: F035XF619AZ
Present native vegetation: Utah juniper, singleleaf pinyon, turbinella oak
Land capability (nonirrigated): 6c

Typical Profile

A1—0 to 1 inch; extremely gravelly fine sandy loam
A2—1 to 3 inches; very gravelly loam
Bt1—3 to 11 inches; clay loam
Bt2—11 to 21 inches; clay
Bt3—21 to 27 inches; cobbly clay
Btk—27 to 35 inches; cobbly clay
2R—35 inches; unweathered bedrock

Rock outcrop

Exposures of bedrock, typically barren but may have sparse vegetation growing in cracks and crevices or in thin layers of alluvium or colluvium.

34—Faraway-Rock outcrop complex, 30 to 70 percent slopes

Map Unit Setting

Landform: hills and mountains
Elevation: 4,800 to 6,700 feet (1,463 to 2,042 meters)
Mean annual precipitation: 12 to 16 inches (305 to 406 millimeters)
Mean annual air temperature: 50 to 57 degrees F (10 to 14 degrees C)
Mean annual soil temperature: 52 to 59 degrees F (12 to 16 degrees C)
Frost-free period: 140 to 170 days

Map Unit Composition

Faraway and similar soils: 70 percent
Rock outcrop: 20 percent
Minor components: 10 percent

Properties and Qualities

Faraway soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, mesic Lithic Haplustolls
Parent material: Alluvium derived from granite and gneiss
Slope: 30 to 70 percent
Depth to restrictive feature: 6 to 10 inches to bedrock (lithic)
Drainage class: Well drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 0.6
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 38; Mogollon Transition
Land Resource Unit: 38-1AZ; Mogollon Transition Interior Chaparral, Grassland, and Pinyon-Juniper Savannah
Ecological site name: Granitic/Schist Hills 10-13" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC355AZ
Present native vegetation: desert ceanothus, turbinella oak, Colorado pinyon, Opuntia, banana yucca, singleleaf pinyon, desert needlegrass
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 3 inches; extremely gravelly loam
C—3 to 7 inches; very gravelly loam
Cr—7 to 9 inches; weathered bedrock
R—9 inches; unweathered bedrock

Rock outcrop

Exposures of bedrock, typically barren but may have sparse vegetation growing in cracks and crevices or in thin layers of alluvium or colluvium.

35—Fig-Blind-Nodman complex, 30 to 70 percent slopes

Map Unit Setting

Landform: hills and mountains
Elevation: 3,800 to 5,800 feet (1,158 to 1,768 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 59 to 64 degrees F (15 to 18 degrees C)
Mean annual soil temperature: 61 to 66 degrees F (17 to 20 degrees C)
Frost-free period: 200 to 230 days

Map Unit Composition

Fig and similar soils: 50 percent
Blind and similar soils: 25 percent
Nodman and similar soils: 15 percent
Minor components: 10 percent

Properties and Qualities

Fig soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, nonacid, thermic, shallow Typic Torriorthents
Parent material: Alluvium and colluvium derived from gneiss and granite

Slope: 30 to 70 percent
Surface fragments: About 30 percent coarse gravel, about 20 percent cobbles, about 20 percent stones, about 2 percent boulders
Depth to restrictive feature: 4 to 20 inches to bedrock (paralithic)
Drainage class: Somewhat excessively drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 0.5
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Granitic/Schist Hills 10-13" p.z. Alkaline
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC306AZ
Present native vegetation: flattop buckwheat, desert needlegrass, blackbrush
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; extremely stony sandy loam
C—2 to 9 inches; very gravelly sandy loam
2Cr—9 to 60 inches; weathered bedrock

Blind soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, thermic Typic Haplargids
Parent material: Alluvium and colluvium derived from mixed rock sources
Slope: 30 to 70 percent
Surface fragments: About 30 percent coarse gravel, about 30 percent cobbles, about 10 percent stones, about 2 percent boulders
Drainage class: Well drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 4.7
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: High
Hydrologic group: B
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Sandy Loam Slopes 10-13" p.z. Fine, Skeletal
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC353AZ
Present native vegetation: black grama, flattop buckwheat, turbinella oak, Mexican bladdersage, banana yucca
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; extremely cobbly sandy loam
Bw—2 to 5 inches; very gravelly sandy loam
Bt1—5 to 15 inches; very gravelly sandy clay loam
Bt2—15 to 27 inches; very cobbly sandy clay loam
Bt3—27 to 44 inches; very cobbly sandy clay loam
Bt4—44 to 60 inches; very cobbly sandy clay loam

Nodman soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, thermic, shallow Typic Haplargids
Parent material: Alluvium and colluvium derived from mixed rock sources
Slope: 30 to 70 percent
Surface fragments: About 50 percent coarse gravel, about 25 percent cobbles
Depth to restrictive feature: 10 to 20 inches to bedrock (paralithic)
Drainage class: Well drained
Permeability: From 0.2 to 0.6 in/hr (moderately slow)
Available water capacity total inches: 0.6
Shrink-swell potential: About 7.5 LEP (high)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: B
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Granitic/Schist Hills 10-13" p.z. Alkaline
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC306AZ
Present native vegetation: flattop buckwheat, blackbrush, desert needlegrass
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; extremely cobbly sandy loam
Bt1—2 to 5 inches; extremely gravelly sandy loam
Bt2—5 to 8 inches; very gravelly sandy clay loam
Bt3—8 to 10 inches; very gravelly sandy clay loam
2Cr—10 to 60 inches; weathered bedrock

36—Filaree gravelly sandy loam, 2 to 6 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 2,400 to 3,400 feet (732 to 1,036 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 57 to 70 degrees F (14 to 21 degrees C)
Mean annual soil temperature: 59 to 72 degrees F (16 to 23 degrees C)
Frost-free period: 200 to 280 days

Map Unit Composition

Filaree and similar soils: 80 percent
Minor components: 20 percent

Properties and Qualities

Filaree soils

Taxonomic classification: Coarse-loamy, mixed, superactive, thermic Typic Haplocambids
Parent material: Alluvium derived from mixed rock sources
Slope: 2 to 6 percent
Surface fragments: About 20 percent coarse gravel
Drainage class: Somewhat excessively drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 5.4
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very low
Hydrologic group: B
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mojave Desert
Ecological site name: Sandy Loam Upland 6-10" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB228AZ
Present native vegetation: big galleta, rayless goldenhead, white burrobrush
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; gravelly sandy loam
Bw1—2 to 18 inches; gravelly sandy loam
Bw2—18 to 34 inches; gravelly sandy loam
Bk—34 to 60 inches; gravelly sandy loam

37—Filaree-Dutchflat complex, 2 to 6 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 3,000 to 4,000 feet (914 to 1,219 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 59 to 64 degrees F (15 to 18 degrees C)
Mean annual soil temperature: 61 to 66 degrees F (17 to 20 degrees C)
Frost-free period: 200 to 230 days

Map Unit Composition

Filaree and similar soils: 60 percent
Dutchflat and similar soils: 30 percent
Minor components: 10 percent

Properties and Qualities

Filaree soils

Taxonomic classification: Coarse-loamy, mixed, superactive, thermic Typic Haplocambids
Parent material: Alluvium derived from mixed rock sources
Slope: 2 to 6 percent
Surface fragments: About 20 percent coarse gravel
Drainage class: Somewhat excessively drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 5.4
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very low
Hydrologic group: B
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mojave Desert
Ecological site name: Sandy Loam Upland 6-10" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB228AZ
Present native vegetation: big galleta, rayless goldenhead, white burrobrush
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; gravelly sandy loam
Bw—2 to 60 inches; gravelly sandy loam

Dutchflat soils

Taxonomic classification: Fine-loamy, mixed, superactive, thermic Typic Haplargids
Parent material: Alluvium derived from igneous and metamorphic rock
Slope: 2 to 6 percent
Surface fragments: About 10 percent coarse gravel
Drainage class: Well drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 5.7
Shrink-swell potential: About 1.0 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Low
Hydrologic group: B
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mojave Desert
Ecological site name: Sandy Loam Upland 6-10" p.z. Fine
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB226AZ
Present native vegetation: big galleta, white burrobrush
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 3 inches; sandy loam
Bw—3 to 7 inches; sandy loam
Bt—7 to 24 inches; gravelly sandy clay loam
Bk1—24 to 39 inches; gravelly sandy loam
Bk2—39 to 60 inches; very gravelly loamy sand

38—Garnet-Dutchflat complex, 2 to 6 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 2,900 to 3,200 feet (884 to 975 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 57 to 62 degrees F (14 to 17 degrees C)
Mean annual soil temperature: 59 to 64 degrees F (16 to 19 degrees C)
Frost-free period: 200 to 300 days

Map Unit Composition

Garnet and similar soils: 50 percent
Dutchflat and similar soils: 40 percent
Minor components: 10 percent

Properties and Qualities

Garnet soils

Taxonomic classification: Fine-loamy over sandy or sandy-skeletal, mixed, superactive, thermic Typic Haplargids
Parent material: Alluvium derived from igneous and metamorphic rock
Slope: 2 to 6 percent
Surface fragments: About 10 percent coarse gravel
Drainage class: Well drained
Permeability: From 0.2 to 0.6 in/hr (moderately slow) over 2 to 6 in/hr (rapid)
Available water capacity total inches: 4.1
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Low
Hydrologic group: B
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mojave Desert
Ecological site name: Sandy Loam Upland 6-10" p.z. Fine
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB226AZ
Present native vegetation: big galleta, white burrobrush
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; gravelly sandy loam
Bw—2 to 7 inches; sandy loam
Bt1—7 to 11 inches; sandy clay loam
Bt2—11 to 20 inches; sandy clay loam
Bt3—20 to 23 inches; very gravelly sandy clay loam
C1—23 to 30 inches; extremely gravelly loamy sand
C2—30 to 60 inches; extremely gravelly sand

Dutchflat soils

Taxonomic classification: Fine-loamy, mixed, superactive, thermic Typic Haplargids
Parent material: Alluvium derived from igneous and metamorphic rock
Slope: 2 to 6 percent
Surface fragments: About 10 percent coarse gravel
Drainage class: Well drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 5.7
Shrink-swell potential: About 1.0 LEP (low)

Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Low
Hydrologic group: B
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mojave Desert
Ecological site name: Sandy Loam Upland 6-10" p.z. Fine
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB226AZ
Present native vegetation: big galleta, white burrobrush
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 3 inches; sandy loam
Bw—3 to 7 inches; sandy loam
Bt—7 to 24 inches; gravelly sandy clay loam
Bk1—24 to 39 inches; gravelly sandy loam
Bk2—39 to 60 inches; very gravelly loamy sand

39—Goesling family silt loam, 3 to 8 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 4,900 to 5,500 feet (1,494 to 1,676 meters)
Mean annual precipitation: 10 to 14 inches (254 to 356 millimeters)
Mean annual air temperature: 48 to 52 degrees F (9 to 11 degrees C)
Mean annual soil temperature: 50 to 54 degrees F (11 to 13 degrees C)
Frost-free period: 135 to 150 days

Map Unit Composition

Goesling family and similar soils: 75 percent
Minor components: 25 percent

Properties and Qualities

Goesling family soils

Taxonomic classification: Fine-loamy, mixed, superactive, mesic Aridic Haplustalfs
Parent material: Alluvium derived from limestone
Slope: 3 to 8 percent
Surface fragments: About 10 percent coarse gravel
Drainage class: Well drained
Permeability: From 0.2 to 0.6 in/hr (moderately slow)
Available water capacity total inches: 10.5
Shrink-swell potential: About 4.5 LEP (moderate)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: High
Hydrologic group: B
Major Land Resource Area: 35; Colorado Plateaus
Land Resource Unit: 35-7AZ; Mogollon Plateaus Pinyon-Juniper Woodland and Grassland
Ecological site name: Loamy Bottom 14-18" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R035XG710AZ
Present native vegetation: blue grama, burrograss, broom snakeweed, ring muhly
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 2 inches; silt loam
Bt—2 to 15 inches; loam
Btk—15 to 60 inches; clay loam

40—Goldroad-Rock outcrop complex, 15 to 35 percent slopes

Map Unit Setting

Landform: hills and mountains
Elevation: 850 to 3,500 feet (258 to 1,067 meters)
Mean annual precipitation: 3 to 6 inches (76 to 152 millimeters)
Mean annual air temperature: 70 to 78 degrees F (21 to 26 degrees C)
Mean annual soil temperature: 72 to 80 degrees F (23 to 28 degrees C)
Frost-free period: 280 to 320 days

Map Unit Composition

Goldroad and similar soils: 75 percent
Rock outcrop: 10 percent
Minor components: 15 percent

Properties and Qualities

Goldroad soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, calcareous, hyperthermic Lithic Torriorthents
Parent material: Residuum and colluvium derived from granite
Slope: 15 to 35 percent
Surface fragments: About 40 percent coarse gravel, about 20 percent cobbles, about 1 percent stones
Depth to restrictive feature: 5 to 10 inches to bedrock (lithic)
Drainage class: Somewhat excessively drained

Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 0.3
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-1AZ; Lower Mojave Desert
Ecological site name: Granitic Hills 3-6" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XA104AZ
Present native vegetation: creosotebush, white bursage, white brittlebush
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; very cobbly sandy loam
Bw—2 to 5 inches; very gravelly sandy loam
2Cr—5 to 6 inches; weathered bedrock
2R—6 inches; unweathered bedrock

Rock outcrop

Exposures of bedrock, typically barren but may have sparse vegetation growing in cracks and crevices or in thin layers of alluvium or colluvium.

41—Goldroad-Rock outcrop complex, 35 to 65 percent slopes

Map Unit Setting

Landform: hills and mountains
Elevation: 850 to 3,500 feet (258 to 1,067 meters)
Mean annual precipitation: 3 to 6 inches (76 to 152 millimeters)
Mean annual air temperature: 70 to 78 degrees F (21 to 26 degrees C)
Mean annual soil temperature: 72 to 80 degrees F (23 to 28 degrees C)
Frost-free period: 280 to 320 days

Map Unit Composition

Goldroad and similar soils: 75 percent
Rock outcrop: 20 percent
Minor components: 5 percent

Properties and Qualities

Goldroad soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, calcareous, hyperthermic Lithic Torriorthents
Parent material: Residuum and colluvium derived from granite
Slope: 35 to 65 percent
Surface fragments: About 40 percent coarse gravel, about 20 percent cobbles, about 1 percent stones
Depth to restrictive feature: 4 to 10 inches to bedrock (lithic)
Drainage class: Somewhat excessively drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 0.5
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-1AZ; Lower Mojave Desert
Ecological site name: Granitic Hills 3-6" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XA104AZ
Present native vegetation: creosotebush, white bursage, white brittlebush
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 1 inch; very cobbly sandy loam
Bw—1 to 8 inches; very cobbly coarse sandy loam
2R—8 inches; unweathered bedrock

Rock outcrop

Exposures of bedrock, typically barren but may have sparse vegetation growing in cracks and crevices or in thin layers of alluvium or colluvium.

42—Gonzales-Rock outcrop complex, 15 to 35 percent slopes

Map Unit Setting

Landform: hills and mountains
Elevation: 3,800 to 5,200 feet (1,158 to 1,585 meters)
Mean annual precipitation: 12 to 16 inches (305 to 406 millimeters)
Mean annual air temperature: 57 to 61 degrees F (14 to 16 degrees C)
Mean annual soil temperature: 59 to 63 degrees F (16 to 18 degrees C)
Frost-free period: 180 to 210 days

Map Unit Composition

Gonzales and similar soils: 60 percent
Rock outcrop: 25 percent
Minor components: 15 percent

Properties and Qualities

Gonzales soils

Taxonomic classification: Clayey, smectitic, thermic, shallow Ustic Haplocambids
Parent material: Alluvium derived from volcanic rock
Slope: 15 to 35 percent
Surface fragments: About 25 percent cobbles, about 20 percent coarse gravel
Depth to restrictive feature: 10 to 20 inches to bedrock (paralithic); 11 to 20 inches to bedrock (lithic)
Drainage class: Well drained
Permeability: From 0.06 to 0.2 in/hr (slow)
Available water capacity total inches: 2.2
Shrink-swell potential: About 7.5 LEP (high)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 38; Mogollon Transition
Land Resource Unit: 38-1AZ; Mogollon Transition Interior Chaparral, Grassland, and Pinyon-Juniper Savannah
Ecological site name: Volcanic Hills 12-16" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R038XA117AZ
Present native vegetation: sideoats grama, black grama, blue grama, bottlebrush squirreltail, desert needlegrass
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 1 inch; very cobbly sandy clay loam
Bw1—1 to 7 inches; clay
Bw2—7 to 14 inches; clay
2Cr—14 to 17 inches; weathered bedrock
2R—17 inches; unweathered bedrock

Rock outcrop

Exposures of bedrock, typically barren but may have sparse vegetation growing in cracks and crevices or in thin layers of alluvium or colluvium.

43—Goodsprings family gravelly sandy loam, 10 to 35 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 3,400 to 4,000 feet (1,036 to 1,219 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 61 to 70 degrees F (16 to 21 degrees C)
Mean annual soil temperature: 63 to 72 degrees F (18 to 23 degrees C)
Frost-free period: 200 to 250 days

Map Unit Composition

Goodsprings family and similar soils: 75 percent
Minor components: 25 percent

Properties and Qualities

Goodsprings family soils

Taxonomic classification: Loamy, mixed, superactive, thermic, shallow Typic Petrocalcids
Parent material: Alluvium derived from mixed rock sources
Slope: 10 to 35 percent
Depth to restrictive feature: 4 to 20 inches to petrocalcic
Drainage class: Well drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 2.1
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Sandy Loam Hills 10-13" p.z. Limy, Shallow
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC327AZ
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; gravelly sandy loam
Bk—2 to 18 inches; gravelly loam

2Bkm—18 to 39 inches; cemented
3C—39 to 60 inches; extremely gravelly loamy coarse sand

44—Gotchell-Sunstroke complex, 6 to 35 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 1,600 to 2,400 feet (488 to 732 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 63 to 70 degrees F (17 to 21 degrees C)
Mean annual soil temperature: 65 to 72 degrees F (19 to 23 degrees C)
Frost-free period: 230 to 280 days

Map Unit Composition

Gotchell and similar soils: 50 percent
Sunstroke and similar soils: 30 percent
Minor components: 20 percent

Properties and Qualities

Gotchell soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, thermic, shallow Typic Haplodurids
Parent material: Alluvium derived from granite
Slope: 6 to 35 percent
Surface fragments: About 70 percent coarse gravel
Depth to restrictive feature: 4 to 20 inches to duripan; 15 to 60 inches to bedrock (lithic)
Drainage class: Somewhat excessively drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 0.6
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mojave Desert
Ecological site name: Limy Slopes 6-10" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB212AZ
Present native vegetation: white bursage, creosotebush
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; extremely gravelly sandy loam
Bw—2 to 14 inches; extremely gravelly sandy loam
Bkqm—14 to 28 inches; indurated
2R—28 inches; unweathered bedrock

Sunstroke soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, thermic Typic Haplodurids
Parent material: Alluvium derived from granite
Slope: 6 to 35 percent
Surface fragments: About 70 percent coarse gravel
Depth to restrictive feature: 20 to 40 inches to duripan; 30 to 60 inches to bedrock (lithic)
Drainage class: Somewhat excessively drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 1.0
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mojave Desert
Ecological site name: Limy Slopes 6-10" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB212AZ
Present native vegetation: white bursage, creosotebush
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; extremely gravelly sandy loam
Bw—2 to 24 inches; extremely gravelly sandy loam
Bkqm—24 to 45 inches; indurated
2R—45 inches; unweathered bedrock

45—Graham-Arivaca complex, 2 to 15 percent slopes

Map Unit Setting

Landform: hills and mountains
Elevation: 4,000 to 5,500 feet (1,219 to 1,676 meters)
Mean annual precipitation: 12 to 16 inches (305 to 406 millimeters)
Mean annual air temperature: 57 to 61 degrees F (14 to 16 degrees C)

Mean annual soil temperature: 59 to 63 degrees F (16 to 18 degrees C)
Frost-free period: 180 to 210 days

Map Unit Composition

Graham and similar soils: 60 percent
Arivaca and similar soils: 25 percent
Minor components: 15 percent

Properties and Qualities

Graham soils

Taxonomic classification: Clayey, smectitic, thermic Lithic Ustic Haplargids
Parent material: Alluvium derived from igneous rock
Slope: 2 to 15 percent
Surface fragments: About 10 percent stones, about 25 percent coarse gravel, about 25 percent cobbles
Depth to restrictive feature: 8 to 20 inches to bedrock (lithic)
Drainage class: Well drained
Permeability: From 0.06 to 0.2 in/hr (slow)
Available water capacity total inches: 2.2
Shrink-swell potential: About 7.5 LEP (high)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 38; Mogollon Transition
Land Resource Unit: 38-1AZ; Mogollon Transition Interior Chaparral, Grassland, and Pinyon-Juniper Savannah
Ecological site name: Shallow Loamy 12-16" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R038XA115AZ
Present native vegetation: Stansbury cliffrose, broom snakeweed, Aristida, Utah juniper, Opuntia, black grama, blue grama
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 2 inches; very cobbly loam
Bt1—2 to 7 inches; clay loam
Bt2—7 to 14 inches; clay
2R—14 inches; unweathered bedrock

Arivaca soils

Taxonomic classification: Fine, smectitic, thermic Ustic Haplargids
Parent material: Alluvium derived from mixed volcanic rock
Slope: 2 to 15 percent
Surface fragments: About 25 percent cobbles, about 20 percent coarse gravel, about 5 percent stones
Depth to restrictive feature: 20 to 40 inches to bedrock (lithic)
Drainage class: Well drained
Permeability: From 0.06 to 0.2 in/hr (slow)
Available water capacity total inches: 3.8
Shrink-swell potential: About 7.5 LEP (high)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 38; Mogollon Transition
Land Resource Unit: 38-1AZ; Mogollon Transition Interior Chaparral, Grassland, and Pinyon-Juniper Savannah
Ecological site name: Clay Loam Upland 12-16" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R038XA103AZ
Present native vegetation: sideoats grama, black grama, blue grama, bottlebrush squirreltail, muttongrass
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 2 inches; very cobbly silty clay loam
BA—2 to 6 inches; cobbly silty clay
2Bt1—6 to 17 inches; clay
2Bt2—17 to 30 inches; clay
3Bk—30 to 36 inches; clay loam
4R—36 inches; unweathered bedrock

46—Graham-Rock outcrop complex, 10 to 40 percent slopes

Map Unit Setting

Landform: hills and mountains
Elevation: 4,000 to 5,500 feet (1,219 to 1,676 meters)
Mean annual precipitation: 12 to 16 inches (305 to 406 millimeters)
Mean annual air temperature: 57 to 61 degrees F (14 to 16 degrees C)
Mean annual soil temperature: 59 to 63 degrees F (16 to 18 degrees C)
Frost-free period: 180 to 210 days

Map Unit Composition

Graham and similar soils: 60 percent
Rock outcrop: 20 percent
Minor components: 20 percent

Properties and Qualities

Graham soils

Taxonomic classification: Clayey, smectitic, thermic Lithic Ustic Haplargids
Parent material: Alluvium derived from igneous rock
Slope: 10 to 40 percent
Surface fragments: About 25 percent coarse gravel, about 25 percent cobbles, about 10 percent stones
Depth to restrictive feature: 8 to 20 inches to bedrock (lithic)
Drainage class: Well drained
Permeability: From 0.06 to 0.2 in/hr (slow)
Available water capacity total inches: 2.2
Shrink-swell potential: About 7.5 LEP (high)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 38; Mogollon Transition
Land Resource Unit: 38-1AZ; Mogollon Transition Interior Chaparral, Grassland, and Pinyon-Juniper Savannah
Ecological site name: Volcanic Hills 12-16" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R038XA117AZ
Present native vegetation: sideoats grama, black grama, blue grama, bottlebrush squirreltail, desert needlegrass
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 2 inches; very cobbly loam
Bt1—2 to 7 inches; clay loam
Bt2—7 to 14 inches; clay
2R—14 inches; unweathered bedrock

Rock outcrop

Exposures of bedrock, typically barren but may have sparse vegetation growing in cracks and crevices or in thin layers of alluvium or colluvium.

47—Grandwash extremely flaggy sandy loam, 2 to 25 percent slopes

Map Unit Setting

Landform: hills
Elevation: 4,700 to 5,000 feet (1,433 to 1,524 meters)
Mean annual precipitation: 14 to 18 inches (356 to 457 millimeters)
Mean annual air temperature: 52 to 55 degrees F (11 to 13 degrees C)
Mean annual soil temperature: 54 to 57 degrees F (13 to 15 degrees C)
Frost-free period: 130 to 165 days

Map Unit Composition

Grandwash and similar soils: 85 percent
Minor components: 15 percent

Properties and Qualities

Grandwash soils

Taxonomic classification: Clayey-skeletal, mixed, superactive, mesic Lithic Haplustalfs
Parent material: Colluvium derived from sandstone over residuum weathered from sandstone
Slope: 2 to 25 percent
Surface fragments: About 40 percent flagstones, about 35 percent channers, about 20 percent stones
Depth to restrictive feature: 6 to 20 inches to bedrock (lithic)
Drainage class: Well drained
Permeability: From 0.06 to 0.2 in/hr (slow)
Available water capacity total inches: 0.5
Shrink-swell potential: About 4.5 LEP (moderate)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 35; Colorado Plateaus
Land Resource Unit: 35-6AZ; Colorado Plateaus Pinyon-Juniper Woodland and Shrubland
Ecological site name: Juniperus osteosperma/Quercus turbinella-Eriogonum/Bouteloua gracilis-Poa fendleriana
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: F035XF636AZ
Present native vegetation: Utah juniper, narrowleaf penstemon, turbinella oak, Eriogonum, broom snakeweed
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 1 inch; extremely flaggy sandy loam
E—1 to 2 inches; channery fine sandy loam
Bt—2 to 12 inches; extremely flaggy clay
2R—12 inches; unweathered bedrock

48—Greyeagle family extremely gravelly coarse sandy loam, 15 to 40 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 4,000 to 4,300 feet (1,219 to 1,311 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 59 to 64 degrees F (15 to 18 degrees C)
Mean annual soil temperature: 61 to 66 degrees F (17 to 20 degrees C)
Frost-free period: 200 to 230 days

Map Unit Composition

Greyeagle family and similar soils: 80 percent
Minor components: 20 percent

Properties and Qualities

Greyeagle family soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, thermic, shallow Typic Haplodurids
Parent material: Alluvium derived from granite
Slope: 15 to 40 percent
Surface fragments: About 30 percent coarse gravel, about 30 percent cobbles, about 5 percent stones
Depth to restrictive feature: 4 to 20 inches to duripan
Drainage class: Somewhat excessively drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 0.8
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Sandy Loam Hills 10-13" p.z. Limy, Skeletal, Shallow, Warm
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC335AZ
Present native vegetation: blackbrush, Mojave woodyaster, Nevada Mormon tea, creosotebush, ratear crinklemat
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; extremely gravelly coarse sandy loam
Bw1—2 to 8 inches; extremely cobbly coarse sandy loam
Bk2—8 to 16 inches; extremely cobbly coarse sandy loam
Bkqm—16 to 60 inches; indurated

49—Greyeagle family extremely gravelly sandy loam, 35 to 60 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 3,500 to 4,200 feet (1,067 to 1,280 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 59 to 64 degrees F (15 to 18 degrees C)
Mean annual soil temperature: 61 to 66 degrees F (17 to 20 degrees C)
Frost-free period: 200 to 230 days

Map Unit Composition

Greyeagle family and similar soils: 75 percent
Minor components: 25 percent

Properties and Qualities

Greyeagle family soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, thermic, shallow Typic Haplodurids
Parent material: Alluvium derived from granite
Slope: 35 to 60 percent
Surface fragments: About 60 percent coarse gravel, about 10 percent cobbles, about 2 percent stones
Depth to restrictive feature: 4 to 20 inches to duripan
Drainage class: Somewhat excessively drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 0.4
Shrink-swell potential: About 1.0 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Sandy Loam Hills 10-13" p.z. Limy, Skeletal, Shallow, Warm
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC335AZ
Present native vegetation: blackbrush, Mojave woodyaster, Nevada Mormon tea, creosotebush, ratear crinklemat

Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; extremely gravelly sandy loam
Bk—2 to 14 inches; extremely gravelly sandy loam
Bkqm—14 to 60 inches; indurated

50—Greyeagle family-Cyclopic complex, 3 to 12 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 3,200 to 4,500 feet (975 to 1,372 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 59 to 64 degrees F (15 to 18 degrees C)
Mean annual soil temperature: 61 to 66 degrees F (17 to 20 degrees C)
Frost-free period: 200 to 280 days

Map Unit Composition

Greyeagle family and similar soils: 70 percent
Cyclopic and similar soils: 20 percent
Minor components: 10 percent

Properties and Qualities

Greyeagle family soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, thermic, shallow Typic Haplodurids
Parent material: Alluvium derived from mixed rock sources
Slope: 3 to 12 percent
Surface fragments: About 30 percent coarse gravel
Depth to restrictive feature: 4 to 20 inches to duripan
Drainage class: Somewhat excessively drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 0.6
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Sandy Loam Upland 10-13" p.z. Limy, Skeletal, Shallow
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC323AZ
Present native vegetation: blackbrush, creosotebush, white bursage, Nevada Mormon tea
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; very gravelly coarse sandy loam
Bk—2 to 12 inches; very gravelly coarse sandy loam
Bkqm—12 to 60 inches; indurated

Cyclopic soils

Taxonomic classification: Clayey-skeletal, smectitic, thermic Typic Argidurids
Parent material: Alluvium derived from granite and basalt
Slope: 3 to 12 percent
Surface fragments: About 40 percent coarse gravel, about 10 percent cobbles, about 2 percent stones
Depth to restrictive feature: 20 to 40 inches to duripan
Drainage class: Well drained
Permeability: From 0.06 to 0.2 in/hr (slow)
Available water capacity total inches: 1.7
Shrink-swell potential: About 4.5 LEP (moderate)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: C
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Sandy Loam Upland 10-13" p.z. Limy, Skeletal
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC318AZ
Present native vegetation: blackbrush, creosotebush, Joshua tree
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; very gravelly sandy loam
Bt1—2 to 5 inches; extremely gravelly clay loam
Bt2—5 to 16 inches; extremely gravelly clay
Btk—16 to 26 inches; very stony clay
Bkqm—26 to 60 inches; indurated

51—Greyeagle-Skelon families complex, 2 to 12 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 2,400 to 4,300 feet (732 to 1,311 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)

Mean annual air temperature: 59 to 64 degrees F (15 to 18 degrees C)
Mean annual soil temperature: 61 to 66 degrees F (17 to 20 degrees C)
Frost-free period: 200 to 230 days

Map Unit Composition

Greyeagle family and similar soils: 70 percent
Skelon family and similar soils: 20 percent
Minor components: 10 percent

Properties and Qualities

Greyeagle family soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, thermic, shallow Typic Haplodurids
Parent material: Alluvium derived from granite
Slope: 2 to 12 percent
Surface fragments: About 50 percent coarse gravel, about 5 percent cobbles
Depth to restrictive feature: 4 to 20 inches to duripan
Drainage class: Somewhat excessively drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 1.0
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Shallow Upland 10-13" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC324AZ
Present native vegetation: blackbrush, Joshua tree
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; very gravelly sandy loam
Bw—2 to 8 inches; very gravelly sandy loam
Bk—8 to 15 inches; very gravelly sandy loam
Bkqm—15 to 60 inches; indurated

Skelon family soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, thermic Typic Haplodurids
Parent material: Alluvium derived from granite
Slope: 2 to 12 percent
Depth to restrictive feature: 20 to 40 inches to duripan
Drainage class: Well drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 2.2
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: C
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Sandy Loam Upland 10-13" p.z. Limy, Skeletal
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC318AZ
Present native vegetation: blackbrush, creosotebush, Joshua tree
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; very gravelly coarse sandy loam
Bw1—2 to 11 inches; very gravelly coarse sandy loam
Bw2—11 to 24 inches; very gravelly sandy clay loam
Bkqm—24 to 60 inches; indurated

52—Greyeagle-Skelon families complex, moist, 4 to 25 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 2,800 to 3,200 feet (854 to 975 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 59 to 64 degrees F (15 to 18 degrees C)
Mean annual soil temperature: 61 to 66 degrees F (17 to 20 degrees C)
Frost-free period: 200 to 230 days

Map Unit Composition

Greyeagle family and similar soils: 60 percent
Skelon family and similar soils: 20 percent
Minor components: 20 percent

Properties and Qualities

Greyeagle family soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, thermic, shallow Typic Haplodurids
Parent material: Alluvium derived from granite
Slope: 4 to 25 percent
Surface fragments: About 40 percent coarse gravel,

about 20 percent cobbles, about 15 percent stones, about 2 percent boulders
Depth to restrictive feature: 4 to 20 inches to duripan
Drainage class: Somewhat excessively drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 0.4
Shrink-swell potential: About 1.0 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Sandy Loam Upland 10-13" p.z. Limy, Skeletal, Shallow
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC323AZ
Present native vegetation: blackbrush, creosotebush, white bursage, Nevada Mormon tea
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 3 inches; extremely gravelly sandy loam
Bk—3 to 12 inches; extremely gravelly sandy loam
Bkqm—12 to 60 inches; indurated

Skelon family soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, thermic Typic Haplodurids
Parent material: Alluvium derived from granite
Slope: 4 to 25 percent
Surface fragments: About 50 percent coarse gravel, about 10 percent cobbles
Depth to restrictive feature: 20 to 40 inches to duripan
Drainage class: Well drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 1.4
Shrink-swell potential: About 1.0 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: C
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Sandy Loam Upland 10-13" p.z. Limy, Skeletal
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC318AZ
Present native vegetation: blackbrush, creosotebush, Joshua tree
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; very gravelly sandy loam
Bk1—2 to 13 inches; very gravelly sandy loam
Bk2—13 to 24 inches; extremely gravelly sandy loam
Bkqm—24 to 60 inches; indurated

53—Gypsids, 3 to 50 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 1,200 to 1,600 feet (366 to 488 meters)
Mean annual precipitation: 3 to 6 inches (76 to 152 millimeters)
Mean annual air temperature: 70 to 78 degrees F (21 to 26 degrees C)
Mean annual soil temperature: 72 to 80 degrees F (23 to 28 degrees C)
Frost-free period: 280 to 320 days

Map Unit Composition

Gypsids and similar soils: 90 percent
Minor components: 10 percent

Properties and Qualities

Gypsids soils

Taxonomic classification: Gypsids
Parent material: Alluvium derived from gypsum over residuum weathered from gypsum
Slope: 3 to 50 percent
Depth to restrictive feature: 10 to 60 inches to bedrock (paralithic)
Drainage class: Well drained
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-1AZ; Lower Mojave Desert
Ecological site name: Gypsum Hills 3-6" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XA123AZ
Present native vegetation: pygmy-cedar, creosotebush, Indianwheat, desert trumpet buckwheat
Land capability (nonirrigated): 7c

Typical Profile

Soils in this landscape position are highly variable

with respect to depth, texture, color, and/or chemical properties. Therefore, physical and chemical properties of specific horizons are not given, and interpretations such as erodibility are not determined. The taxonomic unit description is representative of what may be found in this landscape position.

54—Haplogypsids, eroded-Haplogypsids complex, 35 to 75 percent slopes

Map Unit Setting

Landform: hills and mountains
Elevation: 900 to 3,000 feet (274 to 914 meters)
Mean annual precipitation: 3 to 6 inches (76 to 152 millimeters)
Mean annual air temperature: 70 to 78 degrees F (21 to 26 degrees C)
Mean annual soil temperature: 72 to 80 degrees F (23 to 28 degrees C)
Frost-free period: 280 to 320 days

Map Unit Composition

Haplogypsids and similar soils: 70 percent
Haplogypsids and similar soils: 30 percent

Properties and Qualities

Haplogypsids soils, eroded

Taxonomic classification: Haplogypsids
Parent material: Alluvium derived from shale
Slope: 35 to 75 percent
Depth to restrictive feature: 4 to 10 inches to bedrock (lithic)
Drainage class: Well drained
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-1AZ; Lower Mojave Desert
Ecological site name: Gypsum Hills 3-6" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XA123AZ
Present native vegetation: pygmy-cedar, creosotebush, Indianwheat, desert trumpet buckwheat
Land capability (nonirrigated): 7c

Typical Profile

Soils in this landscape position are highly variable with respect to depth, texture, color, and/or chemical properties. Therefore, physical and chemical properties of specific horizons are not given, and interpretations such as erodibility are not determined. The taxonomic unit description is representative of what may be found in this landscape position.

Haplogypsids soils

Taxonomic classification: Haplogypsids
Parent material: Alluvium derived from shale
Slope: 35 to 75 percent
Drainage class: Well drained
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-1AZ; Lower Mojave Desert
Ecological site name: Gypsum Hills 3-6" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XA123AZ
Present native vegetation: pygmy-cedar, creosotebush, Indianwheat, desert trumpet buckwheat
Land capability (nonirrigated): 7c

Typical Profile

Soils in this landscape position are highly variable with respect to depth, texture, color, and/or chemical properties. Therefore, physical and chemical properties of specific horizons are not given, and interpretations such as erodibility are not determined. The taxonomic unit description is representative of what may be found in this landscape position.

55—Hassell family-Lampshire-Rock outcrop complex, 10 to 30 percent slopes

Map Unit Setting

Landform: hills and mountains
Elevation: 5,000 to 6,800 feet (1,524 to 2,073 meters)
Mean annual precipitation: 12 to 16 inches (305 to 406 millimeters)
Mean annual air temperature: 58 to 60 degrees F (14 to 16 degrees C)
Mean annual soil temperature: 60 to 62 degrees F (16 to 18 degrees C)
Frost-free period: 170 to 190 days

Map Unit Composition

Hassell family and similar soils: 50 percent
Lampshire and similar soils: 25 percent
Rock outcrop: 20 percent

Minor components: 5 percent

Properties and Qualities

Hassell family soils

Taxonomic classification: Fine, smectitic, thermic Ustertic Haplargids
Parent material: Alluvium derived from granite
Slope: 10 to 30 percent
Surface fragments: About 10 percent coarse gravel, about 2 percent cobbles
Depth to restrictive feature: 20 to 40 inches to bedrock (paralithic)
Drainage class: Well drained
Permeability: From 0.06 to 0.2 in/hr (slow)
Available water capacity total inches: 4.4
Shrink-swell potential: About 4.5 LEP (moderate)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: C
Major Land Resource Area: 38; Mogollon Transition
Land Resource Unit: 38-1AZ; Mogollon Transition Interior Chaparral, Grassland, and Pinyon-Juniper Savannah
Ecological site name: Granitic/Schist Hills 10-13" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC355AZ
Present native vegetation: desert ceanothus, turbinella oak, Colorado pinyon, Opuntia, banana yucca, singleleaf pinyon, desert needlegrass
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 4 inches; loam
Bt1—4 to 13 inches; clay
Bt2—13 to 24 inches; clay
Bt3—24 to 33 inches; gravelly clay loam
2Cr—33 to 47 inches; weathered bedrock
2R—47 inches; unweathered bedrock

Lampshire soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, nonacid, thermic Lithic Ustic Torriorthents
Parent material: Alluvium derived from granite
Slope: 20 to 30 percent
Surface fragments: About 2 percent cobbles, about 50 percent coarse gravel
Depth to restrictive feature: 4 to 20 inches to bedrock (lithic); 4 to 20 inches to bedrock (paralithic)
Drainage class: Well drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 0.4
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 38; Mogollon Transition
Land Resource Unit: 38-1AZ; Mogollon Transition Interior Chaparral, Grassland, and Pinyon-Juniper Savannah
Ecological site name: Granitic/Schist Hills 10-13" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC355AZ
Present native vegetation: desert ceanothus, turbinella oak, Colorado pinyon, Opuntia, banana yucca, singleleaf pinyon, desert needlegrass
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 1 inch; very gravelly loam
Bw—1 to 6 inches; very gravelly sandy loam
2Cr—6 to 9 inches; weathered bedrock
2R—9 inches; unweathered bedrock

Rock outcrop

Exposures of bedrock, typically barren but may have sparse vegetation growing in cracks and crevices or in thin layers of alluvium or colluvium.

56—Hindu-Rock outcrop complex, 5 to 45 percent slopes

Map Unit Setting

Landform: hills and mesas
Elevation: 4,000 to 4,800 feet (1,219 to 1,463 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 57 to 68 degrees F (14 to 20 degrees C)
Mean annual soil temperature: 59 to 70 degrees F (16 to 22 degrees C)
Frost-free period: 175 to 220 days

Map Unit Composition

Hindu and similar soils: 60 percent
Rock outcrop: 20 percent
Minor components: 20 percent

Properties and Qualities

Hindu soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, calcareous, thermic Lithic Torriorthents
Parent material: Alluvium and colluvium derived from limestone
Slope: 5 to 45 percent
Depth to restrictive feature: 4 to 19 inches to bedrock (lithic)
Drainage class: Well drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 0.7
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 35; Colorado Plateaus
Land Resource Unit: 35-3AZ; Colorado Plateaus Sagebrush, Grassland, and Pinyon-Juniper Savanna
Ecological site name: Limestone Hills 10-14" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R035XC348AZ
Present native vegetation: blackbrush, Utah juniper, Utah agave, slim tridens
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 3 inches; extremely cobbly loam
Bk—3 to 9 inches; very gravelly loam
R—9 inches; unweathered bedrock

Rock outcrop

Exposures of bedrock, typically barren but may have sparse vegetation growing in cracks and crevices or in thin layers of alluvium or colluvium.

57—Hooks-Courtland families complex, 1 to 5 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 3,900 to 4,500 feet (1,189 to 1,372 meters)
Mean annual precipitation: 12 to 16 inches (305 to 406 millimeters)
Mean annual air temperature: 59 to 64 degrees F (15 to 18 degrees C)
Mean annual soil temperature: 61 to 66 degrees F (17 to 20 degrees C)
Frost-free period: 170 to 230 days

Map Unit Composition

Hooks family and similar soils: 45 percent
Courtland family and similar soils: 40 percent
Minor components: 15 percent

Properties and Qualities

Hooks family soils

Taxonomic classification: Fine-loamy, mixed, superactive, thermic Ustic Haplocambids
Parent material: Alluvium derived from igneous and metamorphic rock
Slope: 1 to 5 percent
Surface fragments: About 5 percent coarse gravel
Drainage class: Well drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 8.9
Shrink-swell potential: About 2.0 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very low
Hydrologic group: B
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Coarse Sandy Loam 10-13" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC305AZ
Present native vegetation: big galleta, black grama, banana yucca, bush muhly, white burrobrush
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 3 inches; sandy loam
Bw1—3 to 17 inches; loam
Bw2—17 to 39 inches; loam
Bw3—39 to 55 inches; loam
Bw4—55 to 60 inches; loam

Courtland family soils

Taxonomic classification: Fine-loamy, mixed, superactive, thermic Ustic Haplargids
Parent material: Alluvium derived from igneous and metamorphic rock
Slope: 1 to 5 percent
Surface fragments: About 15 percent coarse gravel
Depth to restrictive feature: Greater than 40 inches to bedrock.
Drainage class: Well drained

Permeability: From 0.2 to 0.6 in/hr (moderately slow)
Available water capacity total inches: 6.6
Shrink-swell potential: About 5.0 LEP (moderate)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: High
Hydrologic group: B
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Sandy Loam Upland 10-13" p.z. Fine
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC321AZ
Present native vegetation: big galleta, Opuntia, burrograss, black grama, rayless goldenhead
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 3 inches; sandy loam
Bw1—3 to 12 inches; sandy clay loam
Bw2—12 to 36 inches; sandy loam
2Btb—36 to 44 inches; gravelly sandy clay loam
2Btkb—44 to 60 inches; gravelly sandy clay loam

58—Hosta family sandy loam, 1 to 8 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 5,000 to 5,200 feet (1,524 to 1,585 meters)
Mean annual precipitation: 14 to 18 inches (356 to 457 millimeters)
Mean annual air temperature: 50 to 56 degrees F (10 to 13 degrees C)
Mean annual soil temperature: 52 to 58 degrees F (12 to 15 degrees C)
Frost-free period: 135 to 150 days

Map Unit Composition

Hosta family and similar soils: 75 percent
Minor components: 25 percent

Properties and Qualities

Hosta family soils

Taxonomic classification: Fine, mixed, superactive, mesic Aridic Haplustalfs
Parent material: Alluvium derived from granite and gneiss
Slope: 1 to 8 percent
Drainage class: Well drained
Permeability: From 0.001 to 0.06 in/hr (very slow)
Available water capacity total inches: 9.7
Shrink-swell potential: About 10.0 LEP (very high)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: C
Major Land Resource Area: 38; Mogollon Transition
Land Resource Unit: 38-1AZ; Mogollon Transition Interior Chaparral, Grassland, and Pinyon-Juniper Savannah
Ecological site name: Loamy Upland 12-16" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R038XA109AZ
Present native vegetation: black grama, sideoats grama, blue grama, bottlebrush squirreltail, muttongrass
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 3 inches; sandy loam
Bw—3 to 8 inches; loam
Bt—8 to 28 inches; clay
Btk—28 to 38 inches; silty clay
Bk—38 to 60 inches; clay loam

59—House Mountains family-Calvista family-Rock outcrop complex, 10 to 35 percent slopes

Map Unit Setting

Landform: hills and mountains
Elevation: 3,000 to 4,800 feet (914 to 1,463 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 62 to 68 degrees F (17 to 20 degrees C)
Mean annual soil temperature: 64 to 70 degrees F (19 to 22 degrees C)
Frost-free period: 180 to 250 days

Map Unit Composition

House Mountains family and similar soils: 40 percent
Calvista family and similar soils: 30 percent
Rock outcrop: 20 percent
Minor components: 10 percent

Properties and Qualities

House Mountains family soils

Taxonomic classification: Loamy, mixed, superactive, nonacid, thermic Lithic Torriorthents
Parent material: Alluvium derived from volcanic rock
Slope: 10 to 35 percent
Surface fragments: About 45 percent coarse gravel
Depth to restrictive feature: 4 to 20 inches to bedrock (paralithic); 4 to 20 inches to bedrock (lithic)
Drainage class: Well drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 0.4
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Volcanic Hills 10-13" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC332AZ
Present native vegetation: flattop buckwheat, big galleta, California juniper, blackbrush
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; very gravelly sandy loam
C—2 to 5 inches; gravelly sandy loam
2Cr—5 to 9 inches; weathered bedrock
2R—9 inches; unweathered bedrock

Calvista family soils

Taxonomic classification: Loamy, mixed, superactive, thermic Lithic Haplocalcids
Parent material: Alluvium derived from volcanic rock
Slope: 10 to 35 percent
Surface fragments: About 45 percent coarse gravel
Depth to restrictive feature: 4 to 20 inches to bedrock (lithic)
Drainage class: Well drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 0.7
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Volcanic Hills 10-13" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC332AZ
Present native vegetation: flattop buckwheat, big galleta, California juniper, blackbrush
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; very gravelly loam
Bk—2 to 10 inches; cobbly loam
2R—10 inches; unweathered bedrock

Rock outcrop

Exposures of bedrock, typically barren but may have sparse vegetation growing in cracks and crevices or in thin layers of alluvium or colluvium.

60—Huevi extremely cobbly sandy loam, 2 to 6 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 900 to 2,000 feet (274 to 610 meters)
Mean annual precipitation: 3 to 6 inches (76 to 152 millimeters)
Mean annual air temperature: 70 to 78 degrees F (21 to 26 degrees C)
Mean annual soil temperature: 72 to 80 degrees F (23 to 28 degrees C)
Frost-free period: 280 to 320 days

Map Unit Composition

Huevi and similar soils: 90 percent
Minor components: 10 percent

Properties and Qualities

Huevi soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, hyperthermic Durinodic Haplocalcids
Parent material: Alluvium derived from mixed rock sources
Slope: 2 to 6 percent
Surface fragments: About 15 percent coarse gravel, about 45 percent cobbles, about 10 percent stones
Drainage class: Well drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 4.1
Shrink-swell potential: About 1.0 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet

Runoff class: Very low
Hydrologic group: A
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-1AZ; Lower Mojave Desert
Ecological site name: Cobbly Limy Upland 3-6" p.z. Deep
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XA116AZ
Present native vegetation: creosotebush, Indianwheat, white brittlebush
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; extremely cobbly sandy loam
Bk—2 to 12 inches; gravelly sandy loam
Bkq—12 to 60 inches; extremely gravelly sandy loam

61—Huevi very gravelly loam, 10 to 40 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 600 to 2,400 feet (183 to 732 meters)
Mean annual precipitation: 3 to 6 inches (76 to 152 millimeters)
Mean annual air temperature: 70 to 74 degrees F (21 to 23 degrees C)
Mean annual soil temperature: 72 to 76 degrees F (23 to 25 degrees C)
Frost-free period: 250 to 325 days

Map Unit Composition

Huevi and similar soils: 85 percent
Minor components: 15 percent

Properties and Qualities

Huevi soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, hyperthermic Durinodic Haplocalcids
Parent material: Alluvium derived from mixed rock sources
Slope: 10 to 40 percent
Surface fragments: About 65 percent coarse gravel
Drainage class: Well drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 3.0
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Medium
Hydrologic group: B
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-1AZ; Lower Mojave Desert
Ecological site name: Limy Slopes 3-6" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XA107AZ
Present native vegetation: creosotebush, white bursage
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; very gravelly loam
Bw—2 to 9 inches; very gravelly sandy loam
Bk1—9 to 27 inches; very gravelly sandy loam
Bk2—27 to 40 inches; extremely gravelly sandy loam
Bk3—40 to 60 inches; very gravelly loamy sand

62—Huevi very gravelly sandy loam, 15 to 35 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 1,500 to 3,000 feet (457 to 914 meters)
Mean annual precipitation: 3 to 6 inches (76 to 152 millimeters)
Mean annual air temperature: 70 to 78 degrees F (21 to 26 degrees C)
Mean annual soil temperature: 72 to 80 degrees F (23 to 28 degrees C)
Frost-free period: 280 to 320 days

Map Unit Composition

Huevi and similar soils: 80 percent
Minor components: 20 percent

Properties and Qualities

Huevi soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, hyperthermic Durinodic Haplocalcids
Parent material: Alluvium derived from mixed rock sources
Slope: 15 to 35 percent
Surface fragments: About 60 percent coarse gravel
Drainage class: Well drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)

Available water capacity total inches: 2.2
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Medium
Hydrologic group: A
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-1AZ; Lower Mojave Desert
Ecological site name: Limy Slopes 3-6" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XA107AZ
Present native vegetation: creosotebush, white bursage
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; very gravelly sandy loam
Bk—2 to 20 inches; extremely gravelly sandy loam
2Bkq1—20 to 49 inches; extremely gravelly sandy loam
2Bkq2—49 to 60 inches; extremely gravelly loamy sand

63—Huevi-Carrizo complex, 1 to 25 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 1,200 to 1,800 feet (366 to 549 meters)
Mean annual precipitation: 3 to 6 inches (76 to 152 millimeters)
Mean annual air temperature: 70 to 78 degrees F (21 to 26 degrees C)
Mean annual soil temperature: 72 to 80 degrees F (23 to 28 degrees C)
Frost-free period: 280 to 320 days

Map Unit Composition

Huevi and similar soils: 65 percent
Carrizo and similar soils: 15 percent
Minor components: 20 percent

Properties and Qualities

Huevi soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, hyperthermic Durinodic Haplocalcids
Parent material: Alluvium derived from mixed rock sources
Slope: 1 to 25 percent
Surface fragments: About 65 percent coarse gravel
Drainage class: Well drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 2.9
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Low
Hydrologic group: A
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-1AZ; Lower Mojave Desert
Ecological site name: Limy Upland 3-6" p.z. Deep
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XA109AZ
Present native vegetation: creosotebush, white bursage
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; extremely gravelly loam
Bw—2 to 9 inches; very gravelly sandy loam
Bk—9 to 28 inches; very gravelly sandy loam
Bkq1—28 to 40 inches; extremely gravelly loamy sand
Bkq2—40 to 60 inches; very gravelly loamy sand

Carrizo soils

Taxonomic classification: Sandy-skeletal, mixed, hyperthermic Typic Torriorthents
Parent material: Alluvium derived from mixed rock sources
Slope: 1 to 5 percent
Surface fragments: About 65 percent coarse gravel
Drainage class: Excessively drained
Permeability: From 6.0 to 20 in/hr (rapid)
Available water capacity total inches: 1.2
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: Very Rare
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Negligible
Hydrologic group: A
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-1AZ; Lower Mojave Desert
Ecological site name: Sandy Wash 3-6" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XA115AZ
Present native vegetation: creosotebush, white bursage, white burrobrush
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 1 inch; extremely gravelly sandy loam
C1—1 to 10 inches; extremely gravelly loamy sand
C2—10 to 60 inches; extremely gravelly loamy sand

64—Huevi-Carrwash complex, 2 to 75 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 750 to 2,000 feet (229 to 610 meters)
Mean annual precipitation: 3 to 6 inches (76 to 152 millimeters)
Mean annual air temperature: 70 to 78 degrees F (21 to 26 degrees C)
Mean annual soil temperature: 72 to 80 degrees F (23 to 28 degrees C)
Frost-free period: 280 to 320 days

Map Unit Composition

Huevi and similar soils: 65 percent
Carrwash and similar soils: 20 percent
Minor components: 15 percent

Properties and Qualities

Huevi soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, hyperthermic Durinodic Haplocalcids
Parent material: Alluvium derived from mixed rock sources
Slope: 2 to 35 percent
Surface fragments: About 70 percent coarse gravel
Drainage class: Well drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 3.0
Shrink-swell potential: About 1.0 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Low
Hydrologic group: A
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-1AZ; Lower Mojave Desert
Ecological site name: Limy Slopes 3-6" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XA107AZ
Present native vegetation: creosotebush, white bursage
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 3 inches; extremely gravelly sandy loam
Bk—3 to 7 inches; extremely gravelly sandy loam
Bkq—7 to 36 inches; extremely gravelly sandy loam
2C1—36 to 52 inches; extremely gravelly sandy loam
2C2—52 to 60 inches; extremely gravelly loamy sand

Carrwash soils

Taxonomic classification: Sandy-skeletal, mixed, hyperthermic Typic Torriorthents
Parent material: Alluvium derived from mixed rock sources
Slope: 35 to 75 percent
Surface fragments: About 65 percent coarse gravel
Drainage class: Excessively drained
Permeability: Greater than 20 in/hr (very rapid)
Available water capacity total inches: 1.2
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Low
Hydrologic group: A
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-1AZ; Lower Mojave Desert
Ecological site name: Breaks 3-6" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XA102AZ
Present native vegetation: white bursage, Krameria, creosotebush, Ephedra
Land capability (nonirrigated): 7c

Typical Profile

C—0 to 60 inches; extremely gravelly sand

65—Huevi-Sunrock-Rock outcrop complex, 20 to 70 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 900 to 2,000 feet (274 to 610 meters)
Mean annual precipitation: 3 to 6 inches (76 to 152 millimeters)
Mean annual air temperature: 70 to 78 degrees F (21 to 26 degrees C)
Mean annual soil temperature: 72 to 80 degrees F (23 to 28 degrees C)
Frost-free period: 280 to 320 days

Map Unit Composition

Huevi and similar soils: 50 percent
Sunrock and similar soils: 30 percent
Rock outcrop: 10 percent
Minor components: 10 percent

Properties and Qualities

Huevi soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, hyperthermic Durinodic Haplocalcids
Parent material: Alluvium derived from mixed rock sources
Slope: 20 to 70 percent
Surface fragments: About 45 percent coarse gravel, about 45 percent cobbles
Drainage class: Well drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 4.5
Shrink-swell potential: About 1.0 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Medium
Hydrologic group: A
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-1AZ; Lower Mojave Desert
Ecological site name: Limy Slopes 3-6" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XA107AZ
Present native vegetation: creosotebush, white bursage
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; extremely cobbly sandy loam
Bkq—2 to 40 inches; extremely cobbly loam
BC—40 to 60 inches; extremely cobbly sandy loam

Sunrock soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, calcareous, hyperthermic Lithic Torriorthents
Parent material: Colluvium derived from volcanic rock
Slope: 20 to 45 percent
Surface fragments: About 45 percent coarse gravel, about 10 percent cobbles, about 6 percent stones
Depth to restrictive feature: 4 to 20 inches to bedrock (lithic)
Drainage class: Somewhat excessively drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 0.6
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-1AZ; Lower Mojave Desert
Ecological site name: Basalt Hills 3-6" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XA101AZ
Present native vegetation: creosotebush, white bursage, white brittlebush
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 1 inch; extremely stony sandy loam
Bw—1 to 10 inches; very gravelly sandy loam
2R—10 inches; unweathered bedrock

Rock outcrop

Exposures of bedrock, typically barren but may have sparse vegetation growing in cracks and crevices or in thin layers of alluvium or colluvium.

66—Hulda extremely gravelly sandy loam, 20 to 65 percent slopes

Map Unit Setting

Landform: hills and mountains
Elevation: 2,500 to 4,500 feet (762 to 1,372 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 64 to 70 degrees F (18 to 21 degrees C)
Mean annual soil temperature: 66 to 72 degrees F (20 to 23 degrees C)
Frost-free period: 230 to 280 days

Map Unit Composition

Hulda and similar soils: 75 percent
Minor components: 25 percent

Properties and Qualities

Hulda soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, calcareous, thermic Lithic Torriorthents
Parent material: Alluvium and colluvium derived from granite
Slope: 20 to 65 percent

Surface fragments: About 60 percent coarse gravel, about 5 percent cobbles, about 2 percent stones
Depth to restrictive feature: 4 to 19 inches to bedrock (lithic)
Drainage class: Somewhat excessively drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 0.4
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Granitic/Schist Hills 10-13" p.z. Alkaline
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC306AZ
Present native vegetation: flattop buckwheat, desert needlegrass, blackbrush
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 3 inches; extremely gravelly sandy loam
Bw—3 to 8 inches; very gravelly sandy loam
2R—8 inches; unweathered bedrock

67—Hulda-Rock outcrop complex, 20 to 65 percent slopes

Map Unit Setting

Landform: hills and mountains
Elevation: 2,500 to 3,800 feet (762 to 1,158 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 64 to 70 degrees F (18 to 21 degrees C)
Mean annual soil temperature: 66 to 72 degrees F (20 to 23 degrees C)
Frost-free period: 230 to 280 days

Map Unit Composition

Hulda and similar soils: 70 percent
Rock outcrop: 20 percent
Minor components: 10 percent

Properties and Qualities

Hulda soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, calcareous, thermic Lithic Torriorthents
Parent material: Alluvium and colluvium derived from granite
Slope: 20 to 65 percent
Surface fragments: About 45 percent coarse gravel, about 20 percent cobbles, about 10 percent stones
Depth to restrictive feature: 4 to 10 inches to bedrock (lithic)
Drainage class: Somewhat excessively drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 0.3
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mojave Desert
Ecological site name: Granitic Hills 6-10" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB207AZ
Present native vegetation: white bursage, blackbrush, creosotebush, flattop buckwheat
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 1 inch; extremely cobbly sandy loam
C—1 to 6 inches; very gravelly sandy loam
2R—6 inches; unweathered bedrock

Rock outcrop

Exposures of bedrock, typically barren but may have sparse vegetation growing in cracks and crevices or in thin layers of alluvium or colluvium.

68—Hulda-Rock outcrop complex, moist, 35 to 70 percent slopes

Map Unit Setting

Landform: hills and mountains
Elevation: 3,600 to 5,200 feet (1,097 to 1,585 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 59 to 64 degrees F (15 to 18 degrees C)
Mean annual soil temperature: 61 to 66 degrees F (17 to 20 degrees C)
Frost-free period: 200 to 230 days

Map Unit Composition

Hulda and similar soils: 50 percent
Rock outcrop: 35 percent
Minor components: 15 percent

Properties and Qualities

Hulda soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, calcareous, thermic Lithic Torriorthents
Parent material: Alluvium and colluvium derived from granite
Slope: 35 to 70 percent
Surface fragments: About 10 percent coarse gravel, about 20 percent cobbles, about 30 percent stones, about 5 percent boulders
Depth to restrictive feature: 4 to 10 inches to bedrock (lithic)
Drainage class: Somewhat excessively drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 0.4
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Granitic/Schist Hills 10-13" p.z. Alkaline
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC306AZ
Present native vegetation: flattop buckwheat, desert needlegrass, blackbrush
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; extremely stony coarse sandy loam
Bw—2 to 5 inches; extremely stony coarse sandy loam
2R—5 inches; unweathered bedrock

Rock outcrop

Exposures of bedrock, typically barren but may have sparse vegetation growing in cracks and crevices or in thin layers of alluvium or colluvium.

69—Ireteba family-Arizo complex, 1 to 3 percent slopes

Map Unit Setting

Landform: stream terraces
Elevation: 2,800 to 4,600 feet (854 to 1,402 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 57 to 64 degrees F (14 to 18 degrees C)
Mean annual soil temperature: 59 to 66 degrees F (16 to 20 degrees C)
Frost-free period: 200 to 230 days

Map Unit Composition

Ireteba family and similar soils: 45 percent
Arizo and similar soils: 30 percent
Minor components: 25 percent

Properties and Qualities

Ireteba family soils

Taxonomic classification: Coarse-loamy, mixed, superactive, calcareous, thermic Typic Torrifluvents
Parent material: Alluvium derived from mixed rock sources
Slope: 1 to 3 percent
Surface fragments: About 15 percent coarse gravel
Drainage class: Well drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 4.6
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: Very Rare
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very low
Hydrologic group: B
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Sandy Wash 10-13" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC322AZ
Present native vegetation: white burrobrush, catclaw acacia, creosotebush
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; gravelly sandy loam

C1—2 to 10 inches; sandy loam
C2—10 to 19 inches; gravelly sandy loam
C3—19 to 31 inches; gravelly sandy loam
C4—31 to 41 inches; gravelly coarse sandy loam
C5—41 to 60 inches; very gravelly loamy sand

Arizo soils

Taxonomic classification: Sandy-skeletal, mixed, thermic Typic Torriorthents
Parent material: Alluvium derived from mixed rock sources
Slope: 1 to 3 percent
Surface fragments: About 30 percent coarse gravel
Drainage class: Excessively drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 2.4
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: Frequent
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very low
Hydrologic group: B
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Sandy Wash 10-13" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC322AZ
Present native vegetation: white burrobrush, catclaw acacia, creosotebush
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; gravelly sandy loam
C1—2 to 11 inches; gravelly sandy loam
C2—11 to 15 inches; sandy loam
C3—15 to 35 inches; extremely gravelly loamy sand
C4—35 to 60 inches; very gravelly loamy coarse sand

70—Jagerson very gravelly loam, 0 to 4 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 2,800 to 4,800 feet (854 to 1,463 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 59 to 70 degrees F (15 to 21 degrees C)
Mean annual soil temperature: 61 to 72 degrees F (17 to 23 degrees C)
Frost-free period: 180 to 265 days

Map Unit Composition

Jagerson and similar soils: 85 percent
Minor components: 15 percent

Properties and Qualities

Jagerson soils

Taxonomic classification: Fine-loamy, mixed, superactive, thermic Typic Calciargids
Parent material: Alluvium derived from volcanic rock
Slope: 0 to 4 percent
Drainage class: Well drained
Permeability: From 0.2 to 0.6 in/hr (moderately slow)
Available water capacity total inches: 4.4
Shrink-swell potential: About 4.5 LEP (moderate)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Medium
Hydrologic group: B
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mojave Desert
Ecological site name: Limy Fan 6-10" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB211AZ
Present native vegetation: big galleta, white bursage, creosotebush, Joshua tree
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; gravelly sandy clay loam
Bt1—2 to 9 inches; gravelly sandy clay loam
Bt2—9 to 18 inches; clay loam
Bk—18 to 42 inches; very gravelly sandy loam
2Bk2—42 to 60 inches; extremely gravelly loamy coarse sand

71—Jagerson-Nealy complex, 1 to 3 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 3,000 to 3,500 feet (914 to 1,067 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 57 to 70 degrees F (14 to 21 degrees C)
Mean annual soil temperature: 59 to 72 degrees F (16 to 23 degrees C)
Frost-free period: 200 to 280 days

Map Unit Composition

Jagerson and similar soils: 45 percent
Nealy and similar soils: 40 percent
Minor components: 15 percent

Properties and Qualities

Jagerson soils

Taxonomic classification: Fine-loamy, mixed, superactive, thermic Typic Calciargids
Parent material: Alluvium derived from volcanic rock
Slope: 1 to 3 percent
Surface fragments: About 15 percent coarse gravel
Drainage class: Well drained
Permeability: From 0.2 to 0.6 in/hr (moderately slow)
Available water capacity total inches: 4.6
Shrink-swell potential: About 4.5 LEP (moderate)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Medium
Hydrologic group: C
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Loamy Upland 10-13" p.z. Limy Subsurface, Gravelly
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC338AZ
Present native vegetation: creosotebush, big galleta
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; gravelly sandy clay loam
Bt1—2 to 9 inches; gravelly sandy clay loam
Bt2—9 to 18 inches; clay loam
Bk1—18 to 42 inches; very gravelly sandy loam
2Bk2—42 to 60 inches; extremely gravelly loamy coarse sand

Nealy soils

Taxonomic classification: Fine-loamy, mixed, superactive, thermic Typic Argidurids
Parent material: Alluvium derived from volcanic rock
Slope: 1 to 3 percent
Surface fragments: About 2 percent coarse gravel
Depth to restrictive feature: 20 to 40 inches to duripan
Drainage class: Well drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 3.3
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: B
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mojave Desert
Ecological site name: Limy Upland 6-10" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB214AZ
Present native vegetation: creosotebush, white bursage, big galleta
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; gravelly sandy clay loam
Bw—2 to 14 inches; gravelly sandy loam
Btk—14 to 33 inches; gravelly sandy clay loam
Bkqm—33 to 48 inches; indurated
2C—48 to 60 inches; extremely gravelly sand

72—Kingtut-Promontory complex, 3 to 12 percent slopes

Map Unit Setting

Landform: mesas and plateaus
Elevation: 4,300 to 5,100 feet (1,311 to 1,554 meters)
Mean annual precipitation: 10 to 14 inches (254 to 356 millimeters)
Mean annual air temperature: 52 to 55 degrees F (11 to 13 degrees C)
Mean annual soil temperature: 54 to 57 degrees F (13 to 15 degrees C)
Frost-free period: 150 to 165 days

Map Unit Composition

Kingtut and similar soils: 45 percent
Promontory and similar soils: 35 percent
Minor components: 20 percent

Properties and Qualities

Kingtut soils

Taxonomic classification: Fine, smectitic, mesic, shallow Ustalfic Petrocalcids
Parent material: Alluvium derived from rhyolite
Slope: 3 to 12 percent
Surface fragments: About 40 percent coarse gravel
Depth to restrictive feature: 10 to 20 inches to petrocalcic; 20 to 40 inches to bedrock (lithic)
Drainage class: Well drained
Permeability: From 0.06 to 0.2 in/hr (slow)
Available water capacity total inches: 1.7
Shrink-swell potential: About 4.5 LEP (moderate)
Flooding hazard: None

Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 38; Mogollon Transition
Land Resource Unit: 38-1AZ; Mogollon Transition Interior Chaparral, Grassland, and Pinyon-Juniper Savannah
Ecological site name: Shallow Loamy 12-16" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R038XA115AZ
Present native vegetation: Stansbury cliffrose, broom snakeweed, Aristida, Utah juniper, Opuntia, black grama, blue grama
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 2 inches; very gravelly sandy loam
AB—2 to 4 inches; gravelly sandy clay loam
Btk—4 to 17 inches; gravelly sandy clay
2Bkm—17 to 33 inches; cemented
3R—33 inches; unweathered bedrock

Promontory soils

Taxonomic classification: Loamy, mixed, superactive, mesic, shallow Ustic Petrocalcids
Parent material: Alluvium derived from rhyolite
Slope: 3 to 12 percent
Surface fragments: About 30 percent coarse gravel
Depth to restrictive feature: 4 to 19 inches to petrocalcic; 6 to 20 inches to bedrock (lithic)
Drainage class: Well drained
Permeability: From 0.2 to 0.6 in/hr (moderately slow)
Available water capacity total inches: 2.1
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 38; Mogollon Transition
Land Resource Unit: 38-1AZ; Mogollon Transition Interior Chaparral, Grassland, and Pinyon-Juniper Savannah
Ecological site name: Shallow Loamy 12-16" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R038XA115AZ
Present native vegetation: Stansbury cliffrose, broom snakeweed, Aristida, Utah juniper, Opuntia, black grama, blue grama
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 2 inches; gravelly sandy loam
Bw1—2 to 12 inches; gravelly sandy clay loam
Bw2—12 to 17 inches; gravelly sandy clay loam
2Bkm—17 to 19 inches; cemented
3R—19 inches; unweathered bedrock

73—Kinley gravelly loamy sand, 15 to 35 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 2,000 to 3,000 feet (610 to 914 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 64 to 70 degrees F (18 to 21 degrees C)
Mean annual soil temperature: 66 to 72 degrees F (20 to 23 degrees C)
Frost-free period: 230 to 250 days

Map Unit Composition

Kinley and similar soils: 75 percent
Minor components: 25 percent

Properties and Qualities

Kinley soils

Taxonomic classification: Coarse-loamy, mixed, superactive, thermic Typic Haplocalcids
Parent material: Alluvium derived from mixed rock sources
Slope: 15 to 35 percent
Surface fragments: About 20 percent coarse gravel
Drainage class: Well drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 6.5
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Medium
Hydrologic group: B
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Sandy Loam Slopes 10-13" p.z. Limy, Skeletal
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC331AZ
Present native vegetation: Aristida, black grama,

Mexican bladdersage, banana yucca, big galleta, turbinella oak
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; gravelly loamy sand
BA—2 to 9 inches; sandy loam
Bk1—9 to 13 inches; sandy loam
Bk2—13 to 24 inches; sandy loam
Bk3—24 to 34 inches; gravelly sandy loam
Bk4—34 to 50 inches; very gravelly sandy loam
C—50 to 60 inches; very gravelly sandy loam

74—Kurstan family-Dusty complex, 2 to 6 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 2,800 to 3,200 feet (854 to 975 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 59 to 64 degrees F (15 to 18 degrees C)
Mean annual soil temperature: 61 to 66 degrees F (17 to 20 degrees C)
Frost-free period: 200 to 230 days

Map Unit Composition

Kurstan family and similar soils: 60 percent
Dusty and similar soils: 30 percent
Minor components: 10 percent

Properties and Qualities

Kurstan family soils

Taxonomic classification: Coarse-loamy, mixed, superactive, thermic Durinodic Haplocalcids
Parent material: Alluvium derived from mixed rock sources
Slope: 2 to 6 percent
Surface fragments: About 2 percent coarse gravel
Drainage class: Well drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 6.6
Shrink-swell potential: About 1.0 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very low
Hydrologic group: B
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mojave Desert
Ecological site name: Sandy Loam Upland 6-10" p.z. Limy
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB215AZ
Present native vegetation: big galleta, fourwing saltbush, shadscale saltbush, winterfat
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; sandy loam
Bw—2 to 19 inches; sandy loam
Bkq1—19 to 45 inches; sandy loam
Bkq2—45 to 60 inches; sandy loam

Dusty soils

Taxonomic classification: Fine-loamy, mixed, superactive, thermic Typic Natrargids
Parent material: Alluvium derived from mixed rock sources
Slope: 2 to 6 percent
Surface fragments: About 3 percent coarse gravel
Drainage class: Well drained
Permeability: From 0.001 to 0.06 in/hr (very slow)
Available water capacity total inches: 10.2
Shrink-swell potential: About 4.5 LEP (moderate)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: C
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mojave Desert
Ecological site name: Loamy Swale 6-10" p.z. Sodic
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB229AZ
Present native vegetation: big galleta, shadscale saltbush, alkali sacaton
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; sandy loam
Bw—2 to 6 inches; loam
Bt—6 to 10 inches; loam
Btkn—10 to 19 inches; clay loam
Bk1—19 to 24 inches; sandy clay loam
Bk2—24 to 31 inches; sandy clay loam
Bk3—31 to 50 inches; clay loam
C—50 to 60 inches; sandy loam

75—Lampshire-Rock outcrop complex, 20 to 60 percent slopes

Map Unit Setting

Landform: hills and mountains
Elevation: 4,000 to 6,800 feet (1,219 to 2,073 meters)
Mean annual precipitation: 12 to 16 inches (305 to 406 millimeters)
Mean annual air temperature: 57 to 64 degrees F (14 to 18 degrees C)
Mean annual soil temperature: 59 to 66 degrees F (16 to 20 degrees C)
Frost-free period: 180 to 210 days

Map Unit Composition

Lampshire and similar soils: 65 percent
Rock outcrop: 20 percent
Minor components: 15 percent

Properties and Qualities

Lampshire soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, nonacid, thermic Lithic Ustic Torriorthents
Parent material: Alluvium and colluvium derived from igneous rock
Slope: 20 to 60 percent
Surface fragments: About 15 percent coarse gravel
Depth to restrictive feature: 6 to 20 inches to bedrock (paralithic); 17 to 20 inches to bedrock (lithic)
Drainage class: Well drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 0.4
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 38; Mogollon Transition
Land Resource Unit: 38-1AZ; Mogollon Transition Interior Chaparral, Grassland, and Pinyon-Juniper Savannah
Ecological site name: Granitic/Schist Hills 10-13" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC355AZ
Present native vegetation: desert ceanothus, turbinella oak, Colorado pinyon, Opuntia, banana yucca, singleleaf pinyon, desert needlegrass
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 1 inch; gravelly coarse sandy loam
C—1 to 6 inches; very gravelly sandy loam
Cr—6 to 17 inches; weathered bedrock
R—17 inches; unweathered bedrock

Rock outcrop

Exposures of bedrock, typically barren but may have sparse vegetation growing in cracks and crevices or in thin layers of alluvium or colluvium.

76—Lostman gravelly sandy loam, moist, 1 to 5 percent slopes

Map Unit Setting

Landform: stream terraces
Elevation: 2,800 to 3,400 feet (854 to 1,036 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 59 to 64 degrees F (15 to 18 degrees C)
Mean annual soil temperature: 61 to 66 degrees F (17 to 20 degrees C)
Frost-free period: 200 to 230 days

Map Unit Composition

Lostman and similar soils: 80 percent
Minor components: 20 percent

Properties and Qualities

Lostman soils

Taxonomic classification: Coarse-loamy, mixed, superactive, thermic Typic Haplocambids
Parent material: Alluvium derived from mixed rock sources
Slope: 1 to 5 percent
Surface fragments: About 15 percent coarse gravel
Drainage class: Well drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 4.1
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very low
Hydrologic group: B
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mojave Desert
Ecological site name: Sandy Loam Upland 6-10" p.z. Limy Subsurface, Gravelly

Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB205AZ
Present native vegetation: creosotebush, big galleta, white bursage
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; gravelly sandy loam
Bw—2 to 36 inches; gravelly sandy loam
2C—36 to 56 inches; very gravelly loamy coarse sand
3Bk—56 to 60 inches; gravelly sandy clay loam

77—Lostman sandy loam, 1 to 4 percent slopes

Map Unit Setting

Landform: stream terraces
Elevation: 2,400 to 2,600 feet (732 to 792 meters)
Mean annual precipitation: 6 to 9 inches (152 to 229 millimeters)
Mean annual air temperature: 64 to 70 degrees F (18 to 21 degrees C)
Mean annual soil temperature: 66 to 72 degrees F (20 to 23 degrees C)
Frost-free period: 230 to 280 days

Map Unit Composition

Lostman and similar soils: 80 percent
Minor components: 20 percent

Properties and Qualities

Lostman soils

Taxonomic classification: Coarse-loamy, mixed, superactive, thermic Typic Haplocambids
Parent material: Alluvium derived from mixed rock sources
Slope: 1 to 4 percent
Surface fragments: About 10 percent coarse gravel
Drainage class: Well drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 5.4
Shrink-swell potential: About 1.0 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very low
Hydrologic group: B
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mojave Desert
Ecological site name: Sandy Loam Upland 6-10" p.z. Limy Subsurface, Gravelly
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB205AZ
Present native vegetation: creosotebush, big galleta, white bursage
Land capability (nonirrigated): 7c

Typical Profile

A1—0 to 2 inches; sandy loam
Bw—2 to 42 inches; gravelly sandy loam
Btkb—42 to 60 inches; gravelly sandy clay loam

78—Luzena-Thunderbird complex, 3 to 20 percent slopes

Map Unit Setting

Landform: hills and mesas
Elevation: 4,900 to 5,400 feet (1,494 to 1,646 meters)
Mean annual precipitation: 14 to 18 inches (356 to 457 millimeters)
Mean annual air temperature: 48 to 55 degrees F (9 to 13 degrees C)
Mean annual soil temperature: 50 to 57 degrees F (11 to 15 degrees C)
Frost-free period: 120 to 160 days

Map Unit Composition

Luzena and similar soils: 45 percent
Thunderbird and similar soils: 30 percent
Minor components: 25 percent

Properties and Qualities

Luzena soils

Taxonomic classification: Clayey, smectitic, mesic Lithic Argiustolls
Parent material: Alluvium derived from basalt over residuum weathered from basalt
Slope: 3 to 20 percent
Depth to restrictive feature: 5 to 19 inches to bedrock (paralithic); 7 to 20 inches to bedrock (lithic)
Drainage class: Well drained
Permeability: From 0.06 to 0.2 in/hr (slow)
Available water capacity total inches: 1.6
Shrink-swell potential: About 10.0 LEP (very high)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D

Major Land Resource Area: 35; Colorado Plateaus
Land Resource Unit: 35-6AZ; Colorado Plateaus Pinyon-Juniper Woodland and Shrubland
Ecological site name: Juniperus osteosperma/Purshia stansburiana-Quercus turbinella/Poa fendleriana-Elymus elymoides
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: F035XF620AZ
Present native vegetation: Utah juniper, singleleaf pinyon, big sagebrush
Land capability (nonirrigated): 6c

Typical Profile

A1—0 to 1 inch; extremely cobbly loam
A2—1 to 2 inches; extremely cobbly clay loam
Bt—2 to 14 inches; clay
2R—14 inches; unweathered bedrock

Thunderbird soils

Taxonomic classification: Fine, smectitic, mesic Aridic Argiustolls
Parent material: Alluvium derived from mixed rock sources
Slope: 3 to 20 percent
Depth to restrictive feature: 20 to 40 inches to bedrock (lithic)
Drainage class: Well drained
Permeability: From 0.06 to 0.2 in/hr (slow)
Available water capacity total inches: 3.5
Shrink-swell potential: About 7.5 LEP (high)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 35; Colorado Plateaus
Land Resource Unit: 35-6AZ; Colorado Plateaus Pinyon-Juniper Woodland and Shrubland
Ecological site name: Juniperus osteosperma/Purshia stansburiana-Quercus turbinella/Poa fendleriana-Elymus elymoides
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: F035XF620AZ
Present native vegetation: Utah juniper, singleleaf pinyon, big sagebrush
Land capability (nonirrigated): 6s

Typical Profile

A—0 to 2 inches; very cobbly fine sandy loam
Bt1—2 to 6 inches; cobbly loam
Bt2—6 to 11 inches; clay loam
Bt3—11 to 24 inches; cobbly clay
R—24 to 34 inches; unweathered bedrock

79—Lykorly gravelly loam, 1 to 4 percent slopes

Map Unit Setting

Landform: stream terraces
Elevation: 6,000 to 6,500 feet (1,829 to 1,981 meters)
Mean annual precipitation: 14 to 18 inches (356 to 457 millimeters)
Mean annual air temperature: 52 to 54 degrees F (11 to 12 degrees C)
Mean annual soil temperature: 54 to 56 degrees F (13 to 14 degrees C)
Frost-free period: 130 to 160 days

Map Unit Composition

Lykorly and similar soils: 85 percent
Minor components: 15 percent

Properties and Qualities

Lykorly soils

Taxonomic classification: Fine-loamy, mixed, superactive, mesic Aridic Haplustalfs
Parent material: Alluvium derived from limestone
Slope: 1 to 4 percent
Drainage class: Well drained
Permeability: From 0.06 to 0.2 in/hr (slow)
Available water capacity total inches: 10.0
Shrink-swell potential: About 7.5 LEP (high)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Medium
Hydrologic group: C
Major Land Resource Area: 35; Colorado Plateaus
Land Resource Unit: 35-6AZ; Colorado Plateaus Pinyon-Juniper Woodland and Shrubland
Ecological site name: Loamy Upland 13-17" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R035XF605AZ
Present native vegetation: big sagebrush, bottlebrush squirreltail, western wheatgrass
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 1 inch; gravelly loam
E—1 to 2 inches; loam
Bw—2 to 4 inches; loam
2Bt1—4 to 11 inches; clay loam
2Bt2—11 to 25 inches; clay loam

2Btk—25 to 31 inches; loam
3Bk—31 to 44 inches; loam
4Btkb—44 to 60 inches; clay

80—Lykorly silt loam, moist, 1 to 5 percent slopes

Map Unit Setting

Landform: stream terraces
Elevation: 5,400 to 5,800 feet (1,646 to 1,768 meters)
Mean annual precipitation: 14 to 18 inches (356 to 457 millimeters)
Mean annual air temperature: 52 to 54 degrees F (11 to 12 degrees C)
Mean annual soil temperature: 54 to 56 degrees F (13 to 14 degrees C)
Frost-free period: 130 to 160 days

Map Unit Composition

Lykorly and similar soils: 75 percent
Minor components: 25 percent

Properties and Qualities

Lykorly soils

Taxonomic classification: Fine-loamy, mixed, superactive, mesic Aridic Haplustalfs
Parent material: Alluvium derived from limestone
Slope: 1 to 5 percent
Surface fragments: About 5 percent coarse gravel
Drainage class: Well drained
Permeability: From 0.06 to 0.2 in/hr (slow)
Available water capacity total inches: 12.0
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: High
Hydrologic group: C
Major Land Resource Area: 35; Colorado Plateaus
Land Resource Unit: 35-6AZ; Colorado Plateaus Pinyon-Juniper Woodland and Shrubland
Ecological site name: Juniperus osteosperma-Pinus monophylla/Artemisia tridentata-Mahonia fremontii/Pascopyrum smithii
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: F035XF615AZ
Present native vegetation: singleleaf pinyon, Utah juniper
Land capability (nonirrigated): 6c

Typical Profile

A/B—0 to 8 inches; silt loam
Bt—8 to 60 inches; silt loam

81—Manikan-Nuffel complex, 1 to 3 percent slopes

Map Unit Setting

Landform: stream terraces
Elevation: 5,000 to 5,200 feet (1,524 to 1,585 meters)
Mean annual precipitation: 14 to 18 inches (356 to 457 millimeters)
Mean annual air temperature: 48 to 52 degrees F (9 to 11 degrees C)
Mean annual soil temperature: 50 to 54 degrees F (11 to 13 degrees C)
Frost-free period: 135 to 150 days

Map Unit Composition

Manikan and similar soils: 60 percent
Nuffel and similar soils: 25 percent
Minor components: 15 percent

Properties and Qualities

Manikan soils

Taxonomic classification: Fine-loamy, mixed, superactive, nonacid, mesic Aridic Ustifluvents
Parent material: Alluvium derived from mixed rock sources
Slope: 1 to 3 percent
Drainage class: Well drained
Permeability: From 0.2 to 0.6 in/hr (moderately slow)
Available water capacity total inches: 8.8
Shrink-swell potential: About 4.5 LEP (moderate)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Medium
Hydrologic group: B
Major Land Resource Area: 38; Mogollon Transition
Land Resource Unit: 38-1AZ; Mogollon Transition Interior Chaparral, Grassland, and Pinyon-Juniper Savannah
Ecological site name: Sandy Loam Upland 12-16" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R038XA113AZ

Land capability (irrigated): 2e

Typical Profile

A—0 to 3 inches; sandy loam
C1—3 to 24 inches; sandy clay loam
C2—24 to 39 inches; sandy clay loam
C3—39 to 60 inches; loam

Nuffel soils

Taxonomic classification: Fine-silty, mixed, superactive, nonacid, mesic Typic Torrifluvents
Parent material: Alluvium derived from mixed rock sources
Slope: 1 to 3 percent
Drainage class: Well drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 11.5
Shrink-swell potential: About 4.5 LEP (moderate)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Low
Hydrologic group: B
Major Land Resource Area: 38; Mogollon Transition
Land Resource Unit: 38-1AZ; Mogollon Transition Interior Chaparral, Grassland, and Pinyon-Juniper Savannah
Ecological site name: Clay Loam Upland 12-16" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R038XA103AZ
Present native vegetation: sideoats grama, black grama, blue grama, bottlebrush squirreltail, muttongrass
Land capability (irrigated): 2e

Typical Profile

A—0 to 6 inches; silty clay loam
Bw—6 to 14 inches; silty clay loam
Bwb1—14 to 25 inches; silt loam
Bwb2—25 to 60 inches; silty clay loam

82—Mathis family-Riverwash complex, 1 to 4 percent slopes

Map Unit Setting

Landform: flood plains
Elevation: 4,500 to 4,900 feet (1,372 to 1,494 meters)
Mean annual precipitation: 10 to 14 inches (254 to 356 millimeters)
Mean annual air temperature: 52 to 57 degrees F (11 to 14 degrees C)
Mean annual soil temperature: 54 to 59 degrees F (13 to 16 degrees C)
Frost-free period: 180 to 200 days

Map Unit Composition

Mathis family and similar soils: 55 percent
Riverwash: 35 percent
Minor components: 10 percent

Properties and Qualities

Mathis family soils

Taxonomic classification: Sandy-skeletal, mixed, mesic Ustic Torriorthents
Parent material: Alluvium derived from mixed rock sources
Slope: 1 to 4 percent
Surface fragments: About 20 percent coarse gravel, about 50 percent cobbles, about 10 percent stones
Drainage class: Excessively drained
Permeability: Greater than 20 in/hr (very rapid)
Available water capacity total inches: 3.1
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: Frequent
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Negligible
Hydrologic group: B
Major Land Resource Area: 38; Mogollon Transition
Land Resource Unit: 38-1AZ; Mogollon Transition Interior Chaparral, Grassland, and Pinyon-Juniper Savannah
Ecological site name: Sandy Wash 12-16" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R038XA125AZ
Present native vegetation: desert willow
Land capability (nonirrigated): 6c

Typical Profile

C1—0 to 2 inches; extremely cobbly sandy loam
C2—2 to 60 inches; extremely cobbly sand

Riverwash

Barren fluvial channels, usually coarse-textured, exposed along narrow drainageways, subject to shifting during flood events.

83—Mayswell-Rock outcrop complex, 5 to 40 percent slopes

Map Unit Setting

Landform: hills

Elevation: 4,000 to 4,600 feet (1,219 to 1,402 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 57 to 70 degrees F (14 to 21 degrees C)
Mean annual soil temperature: 59 to 72 degrees F (16 to 23 degrees C)
Frost-free period: 200 to 280 days

Map Unit Composition

Mayswell and similar soils: 75 percent
Rock outcrop: 15 percent
Minor components: 10 percent

Properties and Qualities

Mayswell soils

Taxonomic classification: Clayey-skeletal, smectitic, thermic Lithic Haplargids
Parent material: Alluvium derived from basalt over residuum weathered from basalt
Slope: 5 to 40 percent
Surface fragments: About 20 percent cobbles
Depth to restrictive feature: 6 to 20 inches to bedrock (lithic)
Drainage class: Well drained
Permeability: From 0.06 to 0.2 in/hr (slow)
Available water capacity total inches: 2.0
Shrink-swell potential: About 7.5 LEP (high)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Basalt Hills 10-13" p.z. Fine
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC325AZ
Present native vegetation: blackbrush, Mexican bladdersage, rayless brittlebush
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; cobbly clay loam
Bw—2 to 4 inches; cobbly clay loam
Bt1—4 to 9 inches; very cobbly clay loam
2Bt2—9 to 19 inches; very cobbly clay
2R—19 inches; unweathered bedrock

Rock outcrop

Exposures of bedrock, typically barren but may have sparse vegetation growing in cracks and crevices or in thin layers of alluvium or colluvium.

84—Meadview extremely gravelly sandy loam, 5 to 40 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 2,800 to 3,800 feet (854 to 1,158 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 64 to 70 degrees F (18 to 21 degrees C)
Mean annual soil temperature: 66 to 72 degrees F (20 to 23 degrees C)
Frost-free period: 230 to 280 days

Map Unit Composition

Meadview and similar soils: 80 percent
Minor components: 20 percent

Properties and Qualities

Meadview soils

Taxonomic classification: Sandy-skeletal, mixed, thermic Durinodic Haplocalcids
Parent material: Alluvium derived from mixed rock sources
Slope: 5 to 40 percent
Surface fragments: About 40 percent coarse gravel, about 20 percent cobbles, about 2 percent stones
Drainage class: Well drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 2.2
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Medium
Hydrologic group: B
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mojave Desert
Ecological site name: Limy Slopes 6-10" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB212AZ

Present native vegetation: white bursage, creosotebush
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; extremely gravelly sandy loam
Bkq1—2 to 9 inches; extremely gravelly sandy loam
Bkq2—9 to 21 inches; extremely gravelly sandy loam
2C2—21 to 36 inches; very gravelly coarse sand
2C1—36 to 60 inches; extremely cobbly coarse sand

85—Meadview-Yurm family complex, 4 to 25 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 3,600 to 4,000 feet (1,097 to 1,219 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 59 to 64 degrees F (15 to 18 degrees C)
Mean annual soil temperature: 61 to 66 degrees F (17 to 20 degrees C)
Frost-free period: 200 to 230 days

Map Unit Composition

Meadview and similar soils: 60 percent
Yurm family and similar soils: 30 percent
Minor components: 10 percent

Properties and Qualities

Meadview soils

Taxonomic classification: Sandy-skeletal, mixed, thermic Durinodic Haplocalcids
Parent material: Alluvium derived from mixed rock sources
Slope: 4 to 25 percent
Surface fragments: About 30 percent coarse gravel, about 20 percent cobbles, about 5 percent stones
Drainage class: Well drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 1.6
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Low
Hydrologic group: B
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Sandy Loam Upland 10-13" p.z. Limy, Skeletal
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC318AZ
Present native vegetation: blackbrush, creosotebush, Joshua tree
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; very cobbly sandy loam
Bk1—2 to 10 inches; very cobbly sandy loam
Bk2—10 to 21 inches; very cobbly sandy loam
Bkq1—21 to 31 inches; extremely gravelly coarse sand
Bkq2—31 to 42 inches; extremely gravelly coarse sand
Bkq3—42 to 52 inches; extremely gravelly coarse sand
C—52 to 60 inches; extremely gravelly coarse sand

Yurm family soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, thermic, shallow Calcic Petrocalcids
Parent material: Alluvium derived from mixed rock sources
Slope: 4 to 12 percent
Surface fragments: About 40 percent coarse gravel, about 5 percent cobbles
Depth to restrictive feature: 10 to 20 inches to petrocalcic
Drainage class: Well drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 0.7
Shrink-swell potential: About 1.0 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Shallow Upland 10-13" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC324AZ
Present native vegetation: blackbrush, Joshua tree
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; very gravelly sandy loam
Bk—2 to 11 inches; very gravelly sandy loam

Bkm—11 to 11 inches; indurated

86—Meriwhitica-Rock outcrop complex, 5 to 35 percent slopes

Map Unit Setting

Landform: plateaus and mesas
Elevation: 4,600 to 4,800 feet (1,402 to 1,463 meters)
Mean annual precipitation: 10 to 14 inches (254 to 356 millimeters)
Mean annual air temperature: 52 to 57 degrees F (11 to 14 degrees C)
Mean annual soil temperature: 54 to 59 degrees F (13 to 16 degrees C)
Frost-free period: 135 to 175 days

Map Unit Composition

Meriwhitica and similar soils: 65 percent
Rock outcrop: 15 percent
Minor components: 20 percent

Properties and Qualities

Meriwhitica soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, calcareous, mesic Lithic Ustic Torriorthents
Parent material: Alluvium derived from limestone over residuum weathered from limestone
Slope: 5 to 35 percent
Surface fragments: About 5 percent stones, about 20 percent cobbles, about 10 percent cobbles, about 30 percent coarse gravel
Depth to restrictive feature: 4 to 10 inches to bedrock (lithic)
Drainage class: Well drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 0.4
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 35; Colorado Plateaus
Land Resource Unit: 35-3AZ; Colorado Plateaus Sagebrush, Grassland, and Pinyon-Juniper Savanna
Ecological site name: Limestone Hills 10-14" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R035XC348AZ
Present native vegetation: blackbrush, Utah juniper, Utah agave, slim tridens
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 1 inch; very gravelly sandy loam
Bk—1 to 6 inches; very gravelly sandy loam
R—6 inches; unweathered bedrock

Rock outcrop

Exposures of bedrock, typically barren but may have sparse vegetation growing in cracks and crevices or in thin layers of alluvium or colluvium.

87—Mextank very gravelly sandy loam, 2 to 15 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 5,000 to 5,600 feet (1,524 to 1,707 meters)
Mean annual precipitation: 14 to 18 inches (356 to 457 millimeters)
Mean annual air temperature: 48 to 52 degrees F (9 to 11 degrees C)
Mean annual soil temperature: 50 to 54 degrees F (11 to 13 degrees C)
Frost-free period: 135 to 150 days

Map Unit Composition

Mextank and similar soils: 80 percent
Minor components: 20 percent

Properties and Qualities

Mextank soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, mesic Aridic Calciustolls
Parent material: Alluvium derived from limestone
Slope: 2 to 15 percent
Drainage class: Well drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 2.8
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Medium
Hydrologic group: B
Major Land Resource Area: 38; Mogollon Transition
Land Resource Unit: 38-1AZ; Mogollon Transition Interior Chaparral, Grassland, and Pinyon-Juniper Savannah

Ecological site name: Juniperus osteosperma/Quercus turbinella-Purshia stansburiana/Bouteloua gracilis
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: F038XA131AZ
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 2 inches; very gravelly sandy loam
Bw—2 to 11 inches; very gravelly sandy clay loam
Bk1—11 to 28 inches; extremely gravelly sandy loam
Bk2—28 to 46 inches; extremely gravelly sandy loam
Ck—46 to 60 inches; extremely gravelly sandy loam

88—Milkweed-Quartermaster-Buckndoe complex, 2 to 20 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 4,600 to 5,500 feet (1,402 to 1,676 meters)
Mean annual precipitation: 14 to 16 inches (356 to 406 millimeters)
Mean annual air temperature: 52 to 54 degrees F (11 to 12 degrees C)
Mean annual soil temperature: 54 to 56 degrees F (13 to 14 degrees C)
Frost-free period: 120 to 160 days

Map Unit Composition

Milkweed and similar soils: 50 percent
Quartermaster and similar soils: 30 percent
Buckndoe and similar soils: 15 percent
Minor components: 5 percent

Properties and Qualities

Milkweed soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, mesic, shallow Petrocalcic Calciustepts
Parent material: Alluvium derived from mixed rock sources
Slope: 2 to 20 percent
Depth to restrictive feature: 10 to 20 inches to petrocalcic
Drainage class: Well drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 1.0
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: C
Major Land Resource Area: 35; Colorado Plateaus
Land Resource Unit: 35-6AZ; Colorado Plateaus Pinyon-Juniper Woodland and Shrubland
Ecological site name: Juniperus osteosperma-Pinus/Purshia stansburiana-Quercus turbinella/Bouteloua curtipendula-Poa fendleriana
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: F035XF619AZ
Present native vegetation: Utah juniper, singleleaf pinyon, turbinella oak
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 2 inches; extremely gravelly loam
Bk—2 to 11 inches; very gravelly loam
2Bkm1—11 to 28 inches; cemented
2Bkm2—28 to 60 inches; indurated

Quartermaster soils

Taxonomic classification: Fine-loamy, mixed, superactive, mesic Aridic Calciustepts
Parent material: Alluvium derived from mixed rock sources
Slope: 2 to 12 percent
Depth to restrictive feature: 20 to 40 inches to petrocalcic
Drainage class: Well drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 3.6
Shrink-swell potential: About 4.5 LEP (moderate)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: C
Major Land Resource Area: 35; Colorado Plateaus
Land Resource Unit: 35-6AZ; Colorado Plateaus Pinyon-Juniper Woodland and Shrubland
Ecological site name: Juniperus osteosperma-Pinus/Purshia stansburiana-Quercus turbinella/Bouteloua curtipendula-Poa fendleriana
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: F035XF619AZ
Present native vegetation: Utah juniper, singleleaf pinyon, turbinella oak
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 2 inches; extremely gravelly sandy loam
Bk1—2 to 19 inches; loam
Bk2—19 to 26 inches; cobbly loam
Bkm—26 to 36 inches; indurated

Buckndoe soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, mesic Aridic Calciustepts
Parent material: Alluvium derived from mixed rock sources
Slope: 2 to 20 percent
Depth to restrictive feature: 40 to 59 inches to petrocalcic
Drainage class: Well drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 3.6
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Low
Hydrologic group: B
Major Land Resource Area: 35; Colorado Plateaus
Land Resource Unit: 35-6AZ; Colorado Plateaus Pinyon-Juniper Woodland and Shrubland
Ecological site name: Juniperus osteosperma-Pinus monophylla/Artemisia tridentata-Mahonia fremontii/Pascopyrum smithii
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: F035XF615AZ
Present native vegetation: singleleaf pinyon, Utah juniper
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 2 inches; very gravelly sandy loam
Bw—2 to 16 inches; gravelly sandy loam
Bk1—16 to 26 inches; very cobbly fine sandy loam
Bk2—26 to 42 inches; very cobbly fine sandy loam
Bkm—42 to 52 inches; cemented

89—Milok-Pastern complex, 4 to 12 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 4,300 to 4,600 feet (1,311 to 1,402 meters)
Mean annual precipitation: 10 to 14 inches (254 to 356 millimeters)
Mean annual air temperature: 52 to 54 degrees F (11 to 12 degrees C)
Mean annual soil temperature: 54 to 56 degrees F (13 to 14 degrees C)
Frost-free period: 150 to 165 days

Map Unit Composition

Milok and similar soils: 55 percent
Pastern and similar soils: 35 percent
Minor components: 10 percent

Properties and Qualities

Milok soils

Taxonomic classification: Coarse-loamy, mixed, superactive, mesic Ustic Haplocalcids
Parent material: Alluvium derived from limestone
Slope: 4 to 12 percent
Drainage class: Well drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 7.5
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Low
Hydrologic group: B
Major Land Resource Area: 35; Colorado Plateaus
Land Resource Unit: 35-1AZ; Mogollon Plateaus Grassland and Pinyon-Juniper Savannah
Ecological site name: Limy Upland 9-13" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R035XA111AZ
Present native vegetation: blue grama, Utah juniper, broom snakeweed, black grama
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 2 inches; gravelly sandy loam
Bw—2 to 6 inches; gravelly sandy loam
Bk1—6 to 25 inches; gravelly sandy loam
Bk2—25 to 37 inches; gravelly loam
2Bk3—37 to 60 inches; loam

Pastern soils

Taxonomic classification: Loamy, mixed, superactive, mesic, shallow Ustic Petrocalcids
Parent material: Alluvium derived from limestone
Slope: 4 to 12 percent
Depth to restrictive feature: 7 to 20 inches to petrocalcic
Drainage class: Well drained

Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 1.2
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 35; Colorado Plateaus
Land Resource Unit: 35-1AZ; Mogollon Plateaus Grassland and Pinyon-Juniper Savannah
Ecological site name: Limy Upland 10-14" p.z. Shallow
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R035XA125AZ
Present native vegetation: Utah juniper, broom snakeweed, black grama, blue grama, Aristida, Hesperostipa
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 2 inches; gravelly sandy loam
Bw—2 to 11 inches; gravelly loam
2Bkm—11 to 21 inches; cemented
2Bk—21 to 60 inches; extremely gravelly sandy loam

90—Mutang-Dutchflat complex, 0 to 3 percent slopes

Map Unit Setting

Landform: pediments
Elevation: 2,800 to 4,800 feet (854 to 1,463 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 62 to 68 degrees F (17 to 20 degrees C)
Mean annual soil temperature: 64 to 70 degrees F (19 to 22 degrees C)
Frost-free period: 200 to 250 days

Map Unit Composition

Mutang and similar soils: 45 percent
Dutchflat and similar soils: 40 percent
Minor components: 15 percent

Properties and Qualities

Mutang soils

Taxonomic classification: Clayey, mixed, superactive, thermic, shallow Typic Haplargids
Parent material: Alluvium derived from igneous rock
Slope: 0 to 3 percent
Surface fragments: About 15 percent coarse gravel
Depth to restrictive feature: 10 to 20 inches to bedrock (paralithic); 20 to 41 inches to bedrock (lithic)
Drainage class: Well drained
Permeability: From 0.06 to .2 in/hr (slow)
Available water capacity total inches: 2.2
Shrink-swell potential: About 7.0 LEP (high)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: C
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Granitic/Schist Upland 10-13" p.z. Alkaline
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC329AZ
Present native vegetation: flattop buckwheat, big galleta, Joshua tree, Nevada Mormon tea
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 1 inch; gravelly sandy loam
Bt1—1 to 5 inches; loam
Bt2—5 to 15 inches; gravelly clay
2Cr—15 to 22 inches; weathered bedrock
2R—22 inches; unweathered bedrock

Dutchflat soils

Taxonomic classification: Fine-loamy, mixed, superactive, thermic Typic Haplargids
Parent material: Alluvium derived from igneous rock
Slope: 0 to 3 percent
Drainage class: Well drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 7.7
Shrink-swell potential: About 4.5 LEP (moderate)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Low
Hydrologic group: B
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Sandy Loam Upland 10-13" p.z. Fine
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC321AZ
Present native vegetation: big galleta, Opuntia, burrograss, black grama, rayless goldenhead
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 4 inches; sandy loam
Bt—4 to 37 inches; sandy clay loam
C—37 to 60 inches; coarse sandy loam

91—Mutang-Wikieup-Rock outcrop complex, 3 to 30 percent slopes

Map Unit Setting

Landform: pediments
Elevation: 3,500 to 4,500 feet (1,067 to 1,372 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 62 to 68 degrees F (17 to 20 degrees C)
Mean annual soil temperature: 64 to 70 degrees F (19 to 22 degrees C)
Frost-free period: 180 to 250 days

Map Unit Composition

Mutang and similar soils: 55 percent
Wikieup and similar soils: 25 percent
Rock outcrop: 15 percent
Minor components: 5 percent

Properties and Qualities

Mutang soils

Taxonomic classification: Clayey, mixed, superactive, thermic, shallow Typic Haplargids
Parent material: Alluvium derived from igneous rock
Slope: 3 to 30 percent
Surface fragments: About 15 percent coarse gravel
Depth to restrictive feature: 10 to 20 inches to bedrock (paralithic); 20 to 41 inches to bedrock (lithic)
Drainage class: Well drained
Permeability: From 0.06 to 0.2 in/hr (slow)
Available water capacity total inches: 2.2
Shrink-swell potential: About 7.0 LEP (high)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: C
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Granitic/Schist Upland 10-13" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC346AZ
Present native vegetation: turbinella oak, Utah juniper, banana yucca, Eriogonum, desert ceanothus
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 1 inch; gravelly sandy loam
Bt1—1 to 5 inches; loam
Bt2—5 to 15 inches; gravelly clay
2Cr—15 to 22 inches; weathered bedrock
2R—22 inches; unweathered bedrock

Wikieup soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, nonacid, thermic, shallow Typic Torriorthents
Parent material: Alluvium derived from mixed rock sources
Slope: 3 to 30 percent
Depth to restrictive feature: 5 to 20 inches to bedrock (lithic)
Drainage class: Somewhat excessively drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 0.5
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Granitic/Schist Upland 10-13" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC346AZ
Present native vegetation: turbinella oak, Utah juniper, banana yucca, Eriogonum, desert ceanothus
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 3 inches; extremely gravelly loam
C—3 to 7 inches; very gravelly loam
2Cr—7 to 9 inches; weathered bedrock
2R—9 inches; unweathered bedrock

Rock outcrop

Exposures of bedrock, typically barren but may have sparse vegetation growing in cracks and crevices or in thin layers of alluvium or colluvium.

92—Nealy-Shamock family complex, 2 to 8 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 3,100 to 3,400 feet (945 to 1,036 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 59 to 64 degrees F (15 to 18 degrees C)
Mean annual soil temperature: 61 to 66 degrees F (17 to 20 degrees C)
Frost-free period: 200 to 230 days

Map Unit Composition

Nealy and similar soils: 60 percent
Shamock family and similar soils: 30 percent
Minor components: 10 percent

Properties and Qualities

Nealy soils

Taxonomic classification: Fine-loamy, mixed, superactive, thermic Typic Argidurids
Parent material: Alluvium derived from igneous and metamorphic rock
Slope: 2 to 8 percent
Surface fragments: About 20 percent coarse gravel
Depth to restrictive feature: 20 to 40 inches to duripan
Drainage class: Well drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 3.3
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: B
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mojave Desert
Ecological site name: Limy Upland 6-10" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB214AZ
Present native vegetation: creosotebush, white bursage, big galleta
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; gravelly sandy loam
Bw—2 to 5 inches; loam
Bt—5 to 17 inches; loam
Bt2—17 to 23 inches; loam
Bkqm—23 to 60 inches; indurated

Shamock family soils

Taxonomic classification: Coarse-loamy, mixed, superactive, thermic Typic Haplodurids
Parent material: Alluvium derived from mixed rock sources
Slope: 2 to 8 percent
Surface fragments: About 20 percent coarse gravel
Depth to restrictive feature: 20 to 40 inches to duripan
Drainage class: Well drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 3.4
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: B
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mojave Desert
Ecological site name: Limy Upland 6-10" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB214AZ
Present native vegetation: creosotebush, white bursage, big galleta
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 3 inches; gravelly sandy loam
Bk—3 to 23 inches; loam
2Bkqm—23 to 60 inches; indurated

93—Nealy-Skelon family-Detrital complex, 3 to 10 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 3,100 to 3,500 feet (945 to 1,067 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 59 to 68 degrees F (15 to 20 degrees C)
Mean annual soil temperature: 61 to 70 degrees F (17 to 22 degrees C)
Frost-free period: 180 to 260 days

Map Unit Composition

Nealy and similar soils: 40 percent
Skelon family and similar soils: 30 percent
Detrital and similar soils: 25 percent
Minor components: 5 percent

Properties and Qualities

Nealy soils

Taxonomic classification: Fine-loamy, mixed, superactive, thermic Typic Argidurids
Parent material: Alluvium derived from igneous and metamorphic rock
Slope: 3 to 10 percent
Surface fragments: About 30 percent coarse gravel
Depth to restrictive feature: 20 to 40 inches to duripan
Drainage class: Well drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 3.2
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: B
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Sandy Loam Upland 10-13" p.z. Limy, Skeletal
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC318AZ
Present native vegetation: blackbrush, creosotebush, Joshua tree
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; gravelly coarse sandy loam
Bw—2 to 14 inches; gravelly sandy loam
Btk—14 to 33 inches; gravelly sandy clay loam
Bkqm—33 to 48 inches; indurated
2C—48 to 60 inches; extremely gravelly sand

Skelon family soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, thermic Typic Haplodurids
Parent material: Alluvium derived from mixed rock sources
Slope: 3 to 10 percent
Surface fragments: About 50 percent coarse gravel
Depth to restrictive feature: 20 to 40 inches to duripan
Drainage class: Well drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 2.9
Shrink-swell potential: About 1.0 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: C
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Sandy Loam Upland 10-13" p.z. Limy, Skeletal
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC318AZ
Present native vegetation: blackbrush, creosotebush, Joshua tree
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; very gravelly sandy loam
Bw—2 to 10 inches; gravelly sandy loam
Bk—10 to 36 inches; very gravelly sandy loam
Bkqm—36 to 54 inches; indurated
Ck—54 to 60 inches; extremely gravelly loamy sand

Detrital soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, thermic Typic Haplocambids
Parent material: Alluvium derived from mixed rock sources
Slope: 3 to 10 percent
Surface fragments: About 25 percent coarse gravel
Drainage class: Somewhat excessively drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 3.6
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Low
Hydrologic group: A
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Sandy Loam Upland 10-13" p.z. Limy, Skeletal
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC318AZ
Present native vegetation: blackbrush, creosotebush, Joshua tree
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; gravelly sandy loam
Bw1—2 to 17 inches; very gravelly sandy loam
Bw2—17 to 34 inches; very gravelly sandy loam
Bw3—34 to 60 inches; very gravelly sandy loam

94—Nickel family-Bluebird complex, 15 to 45 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 4,000 to 5,000 feet (1,219 to 1,524 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 59 to 64 degrees F (15 to 18 degrees C)
Mean annual soil temperature: 61 to 66 degrees F (17 to 20 degrees C)
Frost-free period: 200 to 230 days

Map Unit Composition

Nickel family and similar soils: 45 percent
Bluebird and similar soils: 25 percent
Minor components: 30 percent

Properties and Qualities

Nickel family soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, thermic Typic Haplocalcids
Parent material: Alluvium derived from granite
Slope: 15 to 45 percent
Surface fragments: About 50 percent coarse gravel
Drainage class: Well drained
Permeability: From 0.2 to 0.6 in/hr (moderately slow)
Available water capacity total inches: 2.8
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: B
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Sandy Loam Slopes 10-13" p.z. Gravelly, Warm
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC314AZ
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; very gravelly sandy loam
Bw—2 to 7 inches; very gravelly sandy loam
Bk1—7 to 25 inches; extremely gravelly sandy loam
Bk2—25 to 35 inches; very gravelly sandy loam
C—35 to 60 inches; extremely gravelly sandy loam

Bluebird soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, thermic Typic Haplargids
Parent material: Alluvium derived from granite
Slope: 15 to 45 percent
Surface fragments: About 40 percent coarse gravel
Drainage class: Well drained
Permeability: From 0.2 to 0.6 in/hr (moderately slow)
Available water capacity total inches: 4.2
Shrink-swell potential: About 4.5 LEP (moderate)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: C
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Sandy Loam Slopes 10-13" p.z. Gravelly, Warm
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC314AZ
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; very gravelly sandy clay loam
Bt—2 to 16 inches; extremely gravelly sandy clay loam
2Bw—16 to 42 inches; extremely gravelly coarse sandy loam
2Btkb—42 to 60 inches; very gravelly sandy clay loam

95—Nickel-Skelon family-Detrital complex, 3 to 10 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 2,000 to 3,200 feet (610 to 975 meters)
Mean annual precipitation: 6 to 9 inches (152 to 229 millimeters)
Mean annual air temperature: 64 to 70 degrees F (18 to 21 degrees C)
Mean annual soil temperature: 66 to 72 degrees F (20 to 23 degrees C)
Frost-free period: 230 to 280 days

Map Unit Composition

Nickel and similar soils: 45 percent
Skelon family and similar soils: 25 percent
Detrital and similar soils: 15 percent

Minor components: 15 percent

Properties and Qualities

Nickel soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, thermic Typic Haplocalcids
Parent material: Alluvium derived from mixed rock sources
Slope: 3 to 10 percent
Surface fragments: About 65 percent coarse gravel
Drainage class: Well drained
Permeability: From 0.2 to 0.6 in/hr (moderately slow)
Available water capacity total inches: 3.2
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: High
Hydrologic group: B
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mojave Desert
Ecological site name: Sandy Loam Upland 6-10" p.z. Limy Subsurface, Gravelly
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB205AZ
Present native vegetation: creosotebush, big galleta, white bursage
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; extremely gravelly sandy loam
Bw—2 to 5 inches; gravelly sandy loam
Bkn—5 to 36 inches; very gravelly sandy loam
Bk—36 to 60 inches; very gravelly loamy sand

Skelon family soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, thermic Typic Haplodurids
Parent material: Alluvium derived from mixed rock sources
Slope: 3 to 10 percent
Surface fragments: About 50 percent coarse gravel
Depth to restrictive feature: 20 to 40 inches to duripan
Drainage class: Well drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 1.2
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: C
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mojave Desert
Ecological site name: Limy Upland 6-10" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB214AZ
Present native vegetation: creosotebush, white bursage, big galleta
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; very gravelly sandy loam
Bw—2 to 15 inches; very gravelly sandy loam
Bk—15 to 35 inches; extremely gravelly sandy loam
Bkqm—35 to 60 inches; indurated

Detrital soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, thermic Typic Haplocambids
Parent material: Alluvium derived from mixed rock sources
Slope: 3 to 10 percent
Surface fragments: About 40 percent coarse gravel
Drainage class: Somewhat excessively drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 3.6
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Low
Hydrologic group: A
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mojave Desert
Ecological site name: Sandy Loam Upland 6-10" p.z. Limy Subsurface, Gravelly
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB205AZ
Present native vegetation: creosotebush, big galleta, white bursage
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 1 inch; very gravelly sandy loam
Bw—1 to 60 inches; very gravelly sandy loam

96—Nickel-Topawa-Eba families complex, 10 to 50 percent slopes

Map Unit Setting

Landform: fan terraces

Elevation: 3,000 to 4,200 feet (914 to 1,280 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 57 to 64 degrees F (14 to 18 degrees C)
Mean annual soil temperature: 59 to 66 degrees F (16 to 20 degrees C)
Frost-free period: 200 to 230 days

Map Unit Composition

Nickel family and similar soils: 35 percent
Topawa family and similar soils: 30 percent
Eba family and similar soils: 25 percent
Minor components: 10 percent

Properties and Qualities

Nickel family soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, thermic Typic Haplocalcids
Parent material: Alluvium derived from igneous rock and/or alluvium derived from metamorphic rock
Slope: 15 to 50 percent
Drainage class: Well drained
Permeability: From 0.2 to 0.6 in/hr (moderately slow)
Available water capacity total inches: 4.3
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: C
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Sandy Loam Slopes 10-13" p.z. Limy, Skeletal
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC331AZ
Present native vegetation: Aristida, black grama, Mexican bladdersage, banana yucca, big galleta, turbinella oak
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 3 inches; very gravelly loamy sand
Bk1—3 to 7 inches; very gravelly sandy clay loam
Bk—7 to 26 inches; very gravelly loam
Bk4—26 to 60 inches; very gravelly sandy loam

Topawa family soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, thermic Typic Haplargids
Parent material: Alluvium derived from mixed and/or colluvium derived from mixed rock sources
Slope: 15 to 50 percent
Drainage class: Well drained
Permeability: From 0.2 to 0.6 in/hr (moderately slow)
Available water capacity total inches: 4.0
Shrink-swell potential: About 4.5 LEP (moderate)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: C
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Sandy Loam Slopes 10-13" p.z. Fine, Skeletal
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC353AZ
Present native vegetation: black grama, flattop buckwheat, turbinella oak, Mexican bladdersage, banana yucca
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 3 inches; very gravelly loamy sand
Bt1—3 to 18 inches; very gravelly sandy clay loam
Bt2—18 to 50 inches; very gravelly sandy loam
C—50 to 58 inches; gravelly loamy sand
2Bkb—58 to 60 inches; gravelly loam

Eba family soils

Taxonomic classification: Clayey-skeletal, mixed, superactive, thermic Typic Calciargids
Parent material: Alluvium derived from metamorphic rock and/or alluvium derived from igneous rock
Slope: 10 to 25 percent
Drainage class: Well drained
Permeability: From 0.06 to 0.2 in/hr (slow)
Available water capacity total inches: 4.0
Shrink-swell potential: About 4.5 LEP (moderate)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: C
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Clay Loam Upland 10-13" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC334AZ
Present native vegetation: big galleta, flattop buckwheat, Mexican bladdersage

Land capability (nonirrigated): 7c

Typical Profile

A—0 to 1 inch; very gravelly sandy loam
Bt—1 to 8 inches; very gravelly clay
Bt—8 to 32 inches; very gravelly clay
Bt3—32 to 52 inches; very gravelly sandy clay
2Bkb—52 to 60 inches; very gravelly loam

97—Nodman-Antares complex, 3 to 15 percent slopes

Map Unit Setting

Landform: pediments
Elevation: 3,400 to 4,600 feet (1,036 to 1,402 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 61 to 66 degrees F (16 to 19 degrees C)
Mean annual soil temperature: 63 to 68 degrees F (18 to 21 degrees C)
Frost-free period: 200 to 230 days

Map Unit Composition

Nodman and similar soils: 40 percent
Antares and similar soils: 35 percent
Minor components: 25 percent

Properties and Qualities

Nodman soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, thermic, shallow Typic Haplargids
Parent material: Residuum weathered from granite
Slope: 3 to 15 percent
Surface fragments: About 50 percent coarse gravel, about 5 percent cobbles
Depth to restrictive feature: 10 to 20 inches to bedrock (paralithic); 20 to 40 inches to bedrock (lithic)
Drainage class: Well drained
Permeability: From 0.2 to 0.6 in/hr (moderately slow)
Available water capacity total inches: 1.2
Shrink-swell potential: About 4.5 LEP (moderate)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Granitic/Schist Upland 10-13" p.z. Alkaline
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC329AZ
Present native vegetation: flattop buckwheat, big galleta, Joshua tree, Nevada Mormon tea
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; very gravelly sandy clay loam
Bt—2 to 15 inches; very gravelly sandy clay loam
2Crk—15 to 39 inches; weathered bedrock
2R—39 inches; unweathered bedrock

Antares soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, calcareous, thermic, shallow Typic Torriorthents
Parent material: Alluvium derived from granite
Slope: 3 to 15 percent
Surface fragments: About 40 percent coarse gravel
Depth to restrictive feature: 4 to 14 inches to bedrock (paralithic); 10 to 60 inches to bedrock (lithic)
Drainage class: Somewhat excessively drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 0.6
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: C
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Granitic/Schist Upland 10-13" p.z. Alkaline
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC329AZ
Present native vegetation: flattop buckwheat, big galleta, Joshua tree, Nevada Mormon tea
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; extremely gravelly sandy loam
Bw—2 to 10 inches; very gravelly sandy loam
2Crk—10 to 40 inches; weathered bedrock
2R—40 inches; unweathered bedrock

98—Nodman-Courtland family complex, 2 to 20 percent slopes

Map Unit Setting

Landform: pediments and hills

Elevation: 4,100 to 4,850 feet (1,250 to 1,478 meters)
Mean annual precipitation: 12 to 16 inches (305 to 406 millimeters)
Mean annual air temperature: 57 to 64 degrees F (14 to 18 degrees C)
Mean annual soil temperature: 59 to 66 degrees F (16 to 20 degrees C)
Frost-free period: 170 to 230 days

Map Unit Composition

Nodman and similar soils: 60 percent
Courtland family and similar soils: 25 percent
Minor components: 15 percent

Properties and Qualities

Nodman soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, thermic, shallow Ustic Haplargids
Parent material: Alluvium derived from granite
Slope: 2 to 20 percent
Surface fragments: About 15 percent cobbles, about 25 percent coarse gravel
Depth to restrictive feature: 5 to 20 inches to bedrock (paralithic)
Drainage class: Well drained
Permeability: From 0.2 to 0.6 in/hr (moderately slow)
Available water capacity total inches: 1.5
Shrink-swell potential: About 5.0 LEP (moderate)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 38; Mogollon Transition
Land Resource Unit: 38-1AZ; Mogollon Transition Interior Chaparral, Grassland, and Pinyon-Juniper Savannah
Ecological site name: Granitic/Schist Upland 10-13" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC346AZ
Present native vegetation: turbinella oak, Utah juniper, banana yucca, Eriogonum, desert ceanothus
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 2 inches; gravelly sandy loam
Bt1—2 to 9 inches; very gravelly sandy clay loam
Bt2—9 to 12 inches; very cobbly sandy clay loam
2Cr—12 to 60 inches; weathered bedrock

Courtland family soils

Taxonomic classification: Fine-loamy, mixed, superactive, thermic Ustic Haplargids
Parent material: Alluvium derived from igneous and metamorphic rock
Slope: 2 to 20 percent
Surface fragments: About 20 percent coarse gravel
Depth to restrictive feature: 20 to 60 inches to bedrock (lithic)
Drainage class: Well drained
Permeability: From 0.2 to 0.6 in/hr (moderately slow)
Available water capacity total inches: 4.2
Shrink-swell potential: About 5.0 LEP (moderate)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: C
Major Land Resource Area: 38; Mogollon Transition
Land Resource Unit: 38-1AZ; Mogollon Transition Interior Chaparral, Grassland, and Pinyon-Juniper Savannah
Ecological site name: Granitic/Schist Upland 10-13" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC346AZ
Present native vegetation: turbinella oak, Utah juniper, banana yucca, Eriogonum, desert ceanothus
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 1 inch; gravelly sandy loam
Bt1—1 to 14 inches; gravelly sandy clay loam
Bt2—14 to 19 inches; clay loam
Bt3—19 to 29 inches; clay loam
2R—29 inches; unweathered bedrock

99—Nodman-Rock outcrop complex, 15 to 65 percent slopes

Map Unit Setting

Landform: hills and mountains
Elevation: 3,900 to 6,300 feet (1,189 to 1,921 meters)
Mean annual precipitation: 12 to 16 inches (305 to 406 millimeters)
Mean annual air temperature: 57 to 64 degrees F (14 to 18 degrees C)
Mean annual soil temperature: 59 to 66 degrees F (16 to 20 degrees C)

Frost-free period: 200 to 230 days

Map Unit Composition

Nodman and similar soils: 65 percent
Rock outcrop: 20 percent
Minor components: 15 percent

Properties and Qualities

Nodman soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, thermic, shallow Ustic Haplargids
Parent material: Alluvium derived from granite over residuum weathered from granite
Slope: 15 to 65 percent
Surface fragments: About 5 percent cobbles, about 25 percent coarse gravel
Depth to restrictive feature: 5 to 20 inches to bedrock (paralithic); 5 to 20 inches to bedrock (paralithic)
Drainage class: Well drained
Permeability: From 0.2 to 0.6 in/hr (moderately slow)
Available water capacity total inches: 0.7
Shrink-swell potential: About 5.0 LEP (moderate)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 38; Mogollon Transition
Land Resource Unit: 38-1AZ; Mogollon Transition Interior Chaparral, Grassland, and Pinyon-Juniper Savannah
Ecological site name: Granitic/Schist Hills 10-13" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC355AZ
Present native vegetation: desert ceanothus, turbinella oak, Colorado pinyon, Opuntia, banana yucca, singleleaf pinyon, desert needlegrass
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 2 inches; gravelly sandy loam
Bt—2 to 10 inches; very gravelly sandy clay loam
2Cr1—10 to 17 inches; weathered bedrock
2Cr2—17 to 60 inches; weathered bedrock

Rock outcrop

Exposures of bedrock, typically barren but may have sparse vegetation growing in cracks and crevices or in thin layers of alluvium or colluvium.

100—Nodman-Romero family complex, 15 to 65 percent slopes

Map Unit Setting

Landform: hills and mountains
Elevation: 4,200 to 5,800 feet (1,280 to 1,768 meters)
Mean annual precipitation: 12 to 16 inches (305 to 406 millimeters)
Mean annual air temperature: 57 to 64 degrees F (14 to 18 degrees C)
Mean annual soil temperature: 59 to 66 degrees F (16 to 20 degrees C)
Frost-free period: 170 to 230 days

Map Unit Composition

Nodman and similar soils: 60 percent
Romero family and similar soils: 20 percent
Minor components: 20 percent

Properties and Qualities

Nodman soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, thermic, shallow Ustic Haplargids
Parent material: Alluvium, colluvium or residuum weathered from granite
Slope: 15 to 65 percent
Surface fragments: About 2 percent stones, about 15 percent cobbles, about 75 percent coarse gravel
Depth to restrictive feature: 5 to 20 inches to bedrock (paralithic)
Drainage class: Well drained
Permeability: From 0.2 to 0.6 in/hr (moderately slow)
Available water capacity total inches: 0.7
Shrink-swell potential: About 5.0 LEP (moderate)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: C
Major Land Resource Area: 38; Mogollon Transition
Land Resource Unit: 38-1AZ; Mogollon Transition Interior Chaparral, Grassland, and Pinyon-Juniper Savannah
Ecological site name: Granitic/Schist Hills 10-13" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC355AZ
Present native vegetation: desert ceanothus, turbinella oak, Colorado pinyon, Opuntia, banana yucca, singleleaf pinyon, desert needlegrass

Land capability (nonirrigated): 6c

Typical Profile

A—0 to 1 inch; gravelly sandy loam
BA—1 to 6 inches; extremely gravelly sandy loam
Bt—6 to 12 inches; very cobbly sandy clay loam
2Cr—12 to 60 inches; weathered bedrock

Romero family soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, nonacid, thermic, shallow Ustic Torriorthents
Parent material: Alluvium derived from metamorphic rock and/or colluvium derived from metamorphic rock over residuum weathered from metamorphic rock
Slope: 15 to 65 percent
Surface fragments: About 65 percent coarse gravel
Depth to restrictive feature: 5 to 20 inches to bedrock (paralithic); 20 to 40 inches to bedrock (lithic)
Drainage class: Well drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 0.4
Shrink-swell potential: About 2.0 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: C
Major Land Resource Area: 38; Mogollon Transition
Land Resource Unit: 38-1AZ; Mogollon Transition Interior Chaparral, Grassland, and Pinyon-Juniper Savannah
Ecological site name: Basalt/Schist Hills 10-13" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC326AZ
Present native vegetation: Opuntia, Pleuraphis, banana yucca, Eriogonum, black grama, sideoats grama
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 2 inches; very gravelly sandy loam
Bw—2 to 7 inches; extremely cobbly sandy loam
2Cr—7 to 21 inches; weathered bedrock
2R—21 inches; unweathered bedrock

101—Nolam family-Ustalfic Petrocalcids-Caralampi family complex, 1 to 15 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 3,800 to 4,450 feet (1,158 to 1,356 meters)
Mean annual precipitation: 12 to 16 inches (305 to 406 millimeters)
Mean annual air temperature: 59 to 64 degrees F (15 to 18 degrees C)
Mean annual soil temperature: 61 to 66 degrees F (17 to 20 degrees C)
Frost-free period: 170 to 230 days

Map Unit Composition

Nolam family and similar soils: 35 percent
Ustalfic Petrocalcids and similar soils: 30 percent
Caralampi family and similar soils: 25 percent
Minor components: 10 percent

Properties and Qualities

Nolam family soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, thermic Ustic Calciargids
Parent material: Alluvium derived from igneous and metamorphic rock
Slope: 1 to 15 percent
Surface fragments: About 5 percent stones, about 10 percent cobbles, about 35 percent gravel
Drainage class: Well drained
Permeability: From 0.2 to 0.6 in/hr (moderately slow)
Available water capacity total inches: 3.9
Shrink-swell potential: About 5.0 LEP (moderate)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Low
Hydrologic group: B
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Sandy Loam Upland 10-13" p.z. Fine, Gravelly
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC315AZ
Present native vegetation: big galleta, Aristida, Utah juniper, banana yucca, black grama
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 2 inches; very cobbly sandy loam
Bt1—2 to 9 inches; very cobbly clay loam
Bt2—9 to 22 inches; very gravelly sandy clay loam
Bt3—22 to 32 inches; very gravelly sandy clay loam
Bt4—32 to 41 inches; very gravelly coarse sandy loam
Bk—41 to 60 inches; sandy clay loam

Ustalfic Petrocalcids soils

Taxonomic classification: Ustalfic Petrocalcids
Parent material: Alluvium derived from igneous and metamorphic rock
Slope: 1 to 15 percent
Surface fragments: About 1 percent stones, about 5 percent cobbles, about 30 percent coarse gravel
Depth to restrictive feature: 5 to 40 inches to petrocalcic
Drainage class: Well drained
Permeability: From 0.2 to 0.6 in/hr (moderately slow)
Available water capacity total inches: 3.8
Shrink-swell potential: About 5.0 LEP (moderate)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: B
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Sandy Loam Upland 10-13" p.z. Fine, Gravelly
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC315AZ
Present native vegetation: big galleta, Aristida, Utah juniper, banana yucca, black grama
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 1 inch; very gravelly sandy loam
Bt1—1 to 4 inches; very stony sandy clay loam
Bt2—4 to 13 inches; very gravelly clay loam
Bt3—13 to 26 inches; very gravelly sandy clay loam
Bt4—26 to 38 inches; very gravelly coarse sandy loam
Bkqm—38 to 60 inches; cemented

Caralampi family soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, thermic Ustic Haplargids
Parent material: Alluvium derived from igneous and metamorphic rock
Slope: 1 to 15 percent
Surface fragments: About 40 percent coarse gravel, about 6 percent cobbles, about 3 percent stones
Drainage class: Well drained
Permeability: From 0.2 to 0.6 in/hr (moderately slow)
Available water capacity total inches: 4.1
Shrink-swell potential: About 5.0 LEP (moderate)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Medium
Hydrologic group: B
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Sandy Loam Upland 10-13" p.z. Fine, Gravelly
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC315AZ
Present native vegetation: big galleta, Aristida, Utah juniper, banana yucca, black grama
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 2 inches; cobbly loam
Bt1—2 to 9 inches; very gravelly clay loam
Bt2—9 to 30 inches; very gravelly sandy clay loam
Bt3—30 to 50 inches; very gravelly coarse sandy loam
C—50 to 60 inches; very gravelly loamy coarse sand

102—Ohaco family-Bluebird complex, 2 to 8 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 3,000 to 3,600 feet (914 to 1,097 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 59 to 64 degrees F (15 to 18 degrees C)
Mean annual soil temperature: 61 to 66 degrees F (17 to 20 degrees C)
Frost-free period: 200 to 230 days

Map Unit Composition

Ohaco family and similar soils: 50 percent
Bluebird and similar soils: 40 percent
Minor components: 10 percent

Properties and Qualities

Ohaco family soils

Taxonomic classification: Fine, mixed, superactive, thermic Typic Argidurids
Parent material: Alluvium derived from granite
Slope: 2 to 8 percent
Surface fragments: About 15 percent coarse gravel
Depth to restrictive feature: 20 to 40 inches to duripan
Drainage class: Well drained
Permeability: From 0.001 to 0.06 in/hr (very slow)
Available water capacity total inches: 4.1

Shrink-swell potential: About 10.0 LEP (very high)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: C
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mojave Desert
Ecological site name: Sandy Loam Upland 6-10" p.z. Fine
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB226AZ
Present native vegetation: big galleta, white burrobrush
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 3 inches; sandy loam
Bt1—3 to 6 inches; clay loam
Bt2—6 to 15 inches; clay
Btk—15 to 20 inches; very gravelly clay loam
B't—20 to 35 inches; very gravelly sandy loam
Bkqm—35 to 60 inches; indurated

Bluebird soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, thermic Typic Haplargids
Parent material: Alluvium derived from granite
Slope: 2 to 8 percent
Surface fragments: About 48 percent coarse gravel
Drainage class: Well drained
Permeability: From 0.2 to 0.6 in/hr (moderately slow)
Available water capacity total inches: 4.2
Shrink-swell potential: About 4.5 LEP (moderate)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: High
Hydrologic group: C
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Sandy Clay Loam Upland 10-13" p.z. Gravelly
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC302AZ
Present native vegetation: flattop buckwheat, rayless goldenhead, big galleta
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; very gravelly sandy clay loam
Bt—2 to 16 inches; extremely gravelly sandy clay loam
2Bw—16 to 42 inches; extremely gravelly coarse sandy loam
2Btkb—42 to 60 inches; very gravelly sandy clay loam

103—Orejano gravelly sandy loam, 4 to 35 percent slopes

Map Unit Setting

Landform: plateaus
Elevation: 4,700 to 5,400 feet (1,433 to 1,646 meters)
Mean annual precipitation: 14 to 18 inches (356 to 457 millimeters)
Mean annual air temperature: 48 to 57 degrees F (9 to 14 degrees C)
Mean annual soil temperature: 50 to 59 degrees F (11 to 16 degrees C)
Frost-free period: 135 to 150 days

Map Unit Composition

Orejano and similar soils: 75 percent
Minor components: 25 percent

Properties and Qualities

Orejano soils

Taxonomic classification: Clayey-skeletal over sandy or sandy-skeletal, mixed, superactive, mesic Aridic Argiustolls
Parent material: Alluvium derived from volcanic rock
Slope: 4 to 35 percent
Surface fragments: About 30 percent coarse gravel, about 10 percent cobbles
Drainage class: Well drained
Permeability: From 0.06 to 0.2 in/hr (slow)
Available water capacity total inches: 3.2
Shrink-swell potential: About 10.0 LEP (very high)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 38; Mogollon Transition
Land Resource Unit: 38-1AZ; Mogollon Transition Interior Chaparral, Grassland, and Pinyon-Juniper Savannah
Ecological site name: Sandy Loam Upland 12-16" p.z. Fine, Gravelly
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R038XA130AZ
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 2 inches; gravelly sandy loam
Bt1—2 to 7 inches; gravelly clay
Bt2—7 to 12 inches; very gravelly sandy clay
BC—12 to 18 inches; very gravelly sandy clay loam
Cd1—18 to 28 inches; extremely gravelly coarse sandy loam
Cd2—28 to 60 inches; very gravelly loamy coarse sand

104—Pantak family-Taine-Terino family complex, 15 to 65 percent slopes

Map Unit Setting

Landform: hills and mountains
Elevation: 3,750 to 4,950 feet (1,143 to 1,509 meters)
Mean annual precipitation: 12 to 16 inches (305 to 406 millimeters)
Mean annual air temperature: 59 to 64 degrees F (15 to 18 degrees C)
Mean annual soil temperature: 61 to 66 degrees F (17 to 20 degrees C)
Frost-free period: 170 to 230 days

Map Unit Composition

Pantak family and similar soils: 45 percent
Taine and similar soils: 25 percent
Terino family and similar soils: 15 percent
Minor components: 15 percent

Properties and Qualities

Pantak family soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, thermic Lithic Ustic Haplargids
Parent material: Colluvium derived from volcanic rock over residuum weathered from volcanic rock
Slope: 15 to 65 percent
Surface fragments: About 15 percent stones, about 30 percent cobbles, about 20 percent gravel
Depth to restrictive feature: 5 to 20 inches to bedrock (lithic)
Drainage class: Well drained
Permeability: From 0.2 to 0.6 in/hr (moderately slow)
Available water capacity total inches: 1.3
Shrink-swell potential: About 5.0 LEP (moderate)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 38; Mogollon Transition
Land Resource Unit: 38-1AZ; Mogollon Transition Interior Chaparral, Grassland, and Pinyon-Juniper Savannah
Ecological site name: Basalt/Schist Hills 10-13" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC326AZ
Present native vegetation: Opuntia, Pleuraphis, banana yucca, Eriogonum, black grama, sideoats grama
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 2 inches; extremely cobbly loam
Bt—2 to 12 inches; extremely cobbly loam
2R—12 inches; unweathered bedrock

Taine soils

Taxonomic classification: Clayey-skeletal, smectitic, thermic Lithic Ustic Haplargids
Parent material: Colluvium derived from volcanic rock over residuum weathered from volcanic rock
Slope: 15 to 65 percent
Surface fragments: About 2 percent stones, about 20 percent cobbles, about 60 percent coarse gravel
Depth to restrictive feature: 10 to 20 inches to bedrock (lithic)
Drainage class: Well drained
Permeability: From 0.2 to 0.6 in/hr (moderately slow)
Available water capacity total inches: 1.3
Shrink-swell potential: About 8.0 LEP (high)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 38; Mogollon Transition
Land Resource Unit: 38-1AZ; Mogollon Transition Interior Chaparral, Grassland, and Pinyon-Juniper Savannah
Ecological site name: Basalt/Schist Hills 10-13" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC326AZ
Present native vegetation: Opuntia, Pleuraphis, banana yucca, Eriogonum, black grama, sideoats grama
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 2 inches; extremely gravelly sandy clay loam
Bt1—2 to 7 inches; very cobbly clay loam
Bt2—7 to 19 inches; extremely stony clay loam
2R—19 inches; unweathered bedrock

Terino family soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, thermic, shallow Ustalfic Petrocalcids
Parent material: Colluvium derived from volcanic rock
Slope: 15 to 65 percent
Surface fragments: About 5 percent stones, about 35 percent cobbles, about 50 percent coarse gravel
Depth to restrictive feature: 10 to 20 inches to petrocalcic; 11 to 60 inches to bedrock (lithic)
Drainage class: Well drained
Permeability: From 0.2 to 0.6 in/hr (moderately slow)
Available water capacity total inches: 1.6
Shrink-swell potential: About 5.0 LEP (moderate)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 38; Mogollon Transition
Land Resource Unit: 38-1AZ; Mogollon Transition Interior Chaparral, Grassland, and Pinyon-Juniper Savannah
Ecological site name: Basalt/Schist Hills 10-13" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC326AZ
Present native vegetation: Opuntia, Pleuraphis, banana yucca, Eriogonum, black grama, sideoats grama
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 2 inches; extremely cobbly loam
Bt1—2 to 10 inches; very cobbly loam
Bt2—10 to 17 inches; extremely cobbly clay loam
2Bknm—17 to 23 inches; cemented
2Cr—23 to 35 inches; weathered bedrock
2R—35 inches; unweathered bedrock

105—Pastern-Strych complex, 4 to 20 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 4,300 to 4,800 feet (1,311 to 1,463 meters)
Mean annual precipitation: 10 to 14 inches (254 to 356 millimeters)
Mean annual air temperature: 52 to 55 degrees F (11 to 13 degrees C)
Mean annual soil temperature: 54 to 57 degrees F (13 to 15 degrees C)
Frost-free period: 150 to 165 days

Map Unit Composition

Pastern and similar soils: 50 percent
Strych and similar soils: 40 percent
Minor components: 10 percent

Properties and Qualities

Pastern soils

Taxonomic classification: Loamy, mixed, superactive, mesic, shallow Ustic Petrocalcids
Parent material: Alluvium derived from limestone
Slope: 4 to 20 percent
Surface fragments: About 25 percent coarse gravel
Depth to restrictive feature: 7 to 20 inches to petrocalcic
Drainage class: Well drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 1.2
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 35; Colorado Plateaus
Land Resource Unit: 35-1AZ; Mogollon Plateaus Grassland and Pinyon-Juniper Savannah
Ecological site name: Limy Upland 10-14" p.z. Shallow
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R035XA125AZ
Present native vegetation: Utah juniper, broom snakeweed, black grama, blue grama, Aristida, Hesperostipa
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 2 inches; gravelly sandy loam
Bw—2 to 11 inches; gravelly loam
2Bkm—11 to 21 inches; cemented
2Bk—21 to 60 inches; extremely gravelly sandy loam

Strych soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, mesic Ustic Haplocalcids
Parent material: Alluvium derived from limestone
Slope: 4 to 20 percent
Surface fragments: About 50 percent coarse gravel, about 5 percent cobbles
Drainage class: Well drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)

Available water capacity total inches: 2.9
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Low
Hydrologic group: B
Major Land Resource Area: 35; Colorado Plateaus
Land Resource Unit: 35-1AZ; Mogollon Plateaus Grassland and Pinyon-Juniper Savannah
Ecological site name: Limy Upland 9-13" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R035XA111AZ
Present native vegetation: blue grama, Utah juniper, broom snakeweed, black grama
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 2 inches; very gravelly sandy loam
Bw—2 to 7 inches; extremely gravelly loam
Bk1—7 to 27 inches; very gravelly sandy loam
Bk2—27 to 60 inches; extremely gravelly sandy loam

106—Peachsprings-Havasupai complex, 2 to 35 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 4,300 to 5,100 feet (1,310 to 1,554 meters)
Mean annual precipitation: 10 to 12 inches (254 to 305 millimeters)
Mean annual air temperature: 52 to 55 degrees F (11 to 13 degrees C)
Mean annual soil temperature: 54 to 57 degrees F (13 to 15 degrees C)
Frost-free period: 135 to 175 days

Map Unit Composition

Peachsprings and similar soils: 75 percent
Havasupai and similar soils: 20 percent
Minor components: 5 percent

Properties and Qualities

Peachsprings soils

Taxonomic classification: Fine-loamy, mixed, superactive, mesic Ustic Haplocalcids
Parent material: Alluvium derived from limestone
Slope: 2 to 15 percent
Drainage class: Well drained
Permeability: From 0.2 to 0.6 in/hr (moderately slow)
Available water capacity total inches: 7.7
Shrink-swell potential: About 4.5 LEP (moderate)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: High
Hydrologic group: B
Major Land Resource Area: 35; Colorado Plateaus
Land Resource Unit: 35-1AZ; Mogollon Plateaus Grassland and Pinyon-Juniper Savannah
Ecological site name: Limy Upland 9-13" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R035XA111AZ
Present native vegetation: blue grama, Utah juniper, broom snakeweed, black grama
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 3 inches; extremely gravelly coarse sandy loam
Bw—3 to 8 inches; gravelly sandy loam
2Bk1—8 to 21 inches; gravelly sandy clay loam
2Bk2—21 to 32 inches; gravelly clay loam
3Bkb1—32 to 43 inches; fine sandy loam
3Bkb2—43 to 64 inches; sandy loam

Havasupai soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, mesic, shallow Calcic Petrocalcids
Parent material: Alluvium derived from limestone
Slope: 2 to 35 percent
Depth to restrictive feature: 10 to 20 inches to petrocalcic
Drainage class: Well drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 1.2
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: C
Major Land Resource Area: 35; Colorado Plateaus
Land Resource Unit: 35-1AZ; Mogollon Plateaus Grassland and Pinyon-Juniper Savannah
Ecological site name: Limy Upland 10-14" p.z. Shallow
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R035XA125AZ
Present native vegetation: Utah juniper, broom snakeweed, black grama, blue grama, Aristida, Hesperostipa
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 2 inches; extremely gravelly sandy loam
Bk1—2 to 7 inches; very gravelly fine sandy loam
Bk2—7 to 15 inches; extremely gravelly sandy loam
Bkqm—15 to 25 inches; indurated
2Bk—25 to 60 inches; extremely gravelly coarse sand

107—Pearce extremely stony loam, 4 to 15 percent slopes

Map Unit Setting

Landform: mesas
Elevation: 2,400 to 2,800 feet (732 to 854 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 57 to 64 degrees F (14 to 18 degrees C)
Mean annual soil temperature: 59 to 66 degrees F (16 to 20 degrees C)
Frost-free period: 200 to 230 days

Map Unit Composition

Pearce and similar soils: 80 percent
Minor components: 20 percent

Properties and Qualities

Pearce soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, calcareous, thermic Lithic Torriorthents
Parent material: Alluvium and colluvium derived from limestone
Slope: 4 to 15 percent
Surface fragments: About 25 percent coarse gravel, about 20 percent cobbles, about 20 percent stones
Depth to restrictive feature: 4 to 20 inches to bedrock (lithic)
Drainage class: Somewhat excessively drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 0.4
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mojave Desert
Ecological site name: Limestone Upland 6-10" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB232AZ
Present native vegetation: white bursage, Nevada Mormon tea
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; extremely stony loam
Bk—2 to 7 inches; extremely stony loam
2R—7 inches; unweathered bedrock

108—Pearce-Detrital-Rock outcrop complex, 20 to 75 percent slopes

Map Unit Setting

Landform: mountains
Elevation: 1,600 to 2,800 feet (488 to 854 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 64 to 70 degrees F (18 to 21 degrees C)
Mean annual soil temperature: 66 to 72 degrees F (20 to 23 degrees C)
Frost-free period: 230 to 280 days

Map Unit Composition

Pearce and similar soils: 50 percent
Detrital and similar soils: 25 percent
Rock outcrop: 10 percent
Minor components: 15 percent

Properties and Qualities

Pearce soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, calcareous, thermic Lithic Torriorthents
Parent material: Alluvium and colluvium derived from limestone
Slope: 35 to 75 percent
Surface fragments: About 25 percent coarse gravel, about 20 percent cobbles, about 20 percent stones
Depth to restrictive feature: 5 to 20 inches to bedrock (lithic)
Drainage class: Somewhat excessively drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 0.6
Shrink-swell potential: About 1.0 LEP (low)

Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mojave Desert
Ecological site name: Limestone Hills 6-10" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB210AZ
Present native vegetation: white bursage, creosotebush, Nevada Mormon tea
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; extremely stony loam
Bk—2 to 13 inches; extremely gravelly sandy loam
2R—13 inches; unweathered bedrock

Detrital soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, thermic Typic Haplocambids
Parent material: Alluvium and colluvium derived from limestone
Slope: 20 to 45 percent
Surface fragments: About 20 percent coarse gravel, about 15 percent cobbles, about 30 percent stones
Drainage class: Somewhat excessively drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 4.0
Shrink-swell potential: About 4.5 LEP (moderate)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Medium
Hydrologic group: A
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mojave Desert
Ecological site name: Loamy Slopes 6-10" p.z. Limy, Cobbly
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB230AZ
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; extremely stony loam
Bw—2 to 13 inches; very cobbly loam
Bk—13 to 24 inches; extremely cobbly loam
Btkb—24 to 35 inches; extremely cobbly sandy clay loam
C—35 to 60 inches; extremely cobbly clay loam

Rock outcrop

Exposures of bedrock, typically barren but may have sparse vegetation growing in cracks and crevices or in thin layers of alluvium or colluvium.

109—Pearce-Rock outcrop complex, 5 to 65 percent slopes

Map Unit Setting

Landform: mesas
Elevation: 1,600 to 2,400 feet (488 to 732 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 64 to 70 degrees F (18 to 21 degrees C)
Mean annual soil temperature: 66 to 72 degrees F (20 to 23 degrees C)
Frost-free period: 230 to 280 days

Map Unit Composition

Pearce and similar soils: 70 percent
Rock outcrop: 15 percent
Minor components: 15 percent

Properties and Qualities

Pearce soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, calcareous, thermic Lithic Torriorthents
Parent material: Alluvium and colluvium derived from limestone
Slope: 5 to 65 percent
Surface fragments: About 40 percent coarse gravel, about 2 percent cobbles, about 2 percent stones, about 2 percent boulders
Depth to restrictive feature: 5 to 20 inches to bedrock (lithic)
Drainage class: Somewhat excessively drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 0.5
Shrink-swell potential: About 1.0 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mojave Desert
Ecological site name: Limestone Hills 6-10" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.

Ecosystem site number: R030XB210AZ
Present native vegetation: white bursage, creosotebush, Nevada Mormon tea
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; very gravelly loam
Bk—2 to 5 inches; very gravelly loam
2R—5 inches; unweathered bedrock

Rock outcrop

Exposures of bedrock, typically barren but may have sparse vegetation growing in cracks and crevices or in thin layers of alluvium or colluvium.

110—Pedregosa-Tombstone families complex, 1 to 15 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 3,400 to 4,200 feet (1,036 to 1,280 meters)
Mean annual precipitation: 12 to 16 inches (305 to 406 millimeters)
Mean annual air temperature: 59 to 64 degrees F (15 to 18 degrees C)
Mean annual soil temperature: 61 to 66 degrees F (17 to 20 degrees C)
Frost-free period: 170 to 230 days

Map Unit Composition

Pedregosa family and similar soils: 50 percent
Tombstone family and similar soils: 40 percent
Minor components: 10 percent

Properties and Qualities

Pedregosa family soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, thermic, shallow Ustic Petrocalcids
Parent material: Alluvium and colluvium derived from igneous and metamorphic rock
Slope: 1 to 15 percent
Surface fragments: About 2 percent stones, about 10 percent cobbles, about 50 percent coarse gravel
Depth to restrictive feature: 10 to 20 inches to petrocalcic
Drainage class: Well drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 0.8
Shrink-swell potential: About 2.0 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 38; Mogollon Transition
Land Resource Unit: 38-1AZ; Mogollon Transition Interior Chaparral, Grassland, and Pinyon-Juniper Savannah
Ecological site name: Limy Upland 10-13" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC311AZ
Present native vegetation: Juniperus, broom snakeweed, Yucca
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 2 inches; very cobbly sandy loam
Bk1—2 to 6 inches; very cobbly sandy loam
Bk2—6 to 13 inches; very cobbly sandy loam
Bkm—13 to 13 inches; indurated

Tombstone family soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, thermic Ustic Haplocalcids
Parent material: Alluvium and colluvium derived from igneous and metamorphic rock
Slope: 1 to 15 percent
Surface fragments: About 2 percent cobbles, about 20 percent coarse gravel
Depth to restrictive feature: 40 to 60 inches to petrocalcic
Drainage class: Well drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 3.8
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Low
Hydrologic group: C
Major Land Resource Area: 38; Mogollon Transition
Land Resource Unit: 38-1AZ; Mogollon Transition Interior Chaparral, Grassland, and Pinyon-Juniper Savannah
Ecological site name: Limy Upland 10-13" p.z. Deep
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC313AZ
Present native vegetation: big galleta, creosotebush, white burrobrush, Canotia, banana yucca, rayless goldenhead
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 3 inches; gravelly sandy loam

Bk1—3 to 19 inches; very gravelly sandy loam
Bk2—19 to 34 inches; very gravelly sandy loam
Bk3—34 to 44 inches; very gravelly sandy loam
Bk4—44 to 50 inches; sandy loam
Bkqm—50 to 60 inches; indurated

111—Pidineen-Tricon families complex, 2 to 10 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 5,000 to 5,500 feet (1,524 to 1,676 meters)
Mean annual precipitation: 14 to 18 inches (356 to 457 millimeters)
Mean annual air temperature: 48 to 52 degrees F (9 to 11 degrees C)
Mean annual soil temperature: 50 to 54 degrees F (11 to 13 degrees C)
Frost-free period: 135 to 150 days

Map Unit Composition

Pidineen family and similar soils: 65 percent
Tricon family and similar soils: 15 percent
Minor components: 20 percent

Properties and Qualities

Pidineen family soils

Taxonomic classification: Loamy, mixed, superactive, mesic, shallow Petrocalcic Calciustolls
Parent material: Alluvium derived from limestone
Slope: 2 to 10 percent
Depth to restrictive feature: 10 to 20 inches to petrocalcic
Drainage class: Well drained
Permeability: From 0.2 to 0.6 in/hr (moderately slow)
Available water capacity total inches: 1.5
Shrink-swell potential: About 1.0 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 35; Colorado Plateaus
Land Resource Unit: 35-7AZ; Mogollon Plateaus Pinyon-Juniper Woodland and Grassland
Ecological site name: Sandy Loam Upland 14-18" p.z. Limy, Gravelly, Shallow
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R035XG713AZ
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 2 inches; gravelly sandy loam
Bw—2 to 5 inches; gravelly sandy loam
Bk1—5 to 14 inches; very gravelly sandy loam
Bk2—14 to 19 inches; gravelly sandy loam
Bkm—19 to 19 inches; indurated

Tricon family soils

Taxonomic classification: Fine, mixed, superactive, mesic Petrocalcic Paleustolls
Parent material: Alluvium derived from limestone
Slope: 2 to 10 percent
Depth to restrictive feature: 20 to 40 inches to petrocalcic
Drainage class: Well drained
Permeability: From 0.06 to 0.2 in/hr (slow)
Available water capacity total inches: 3.7
Shrink-swell potential: About 7.5 LEP (high)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 35; Colorado Plateaus
Land Resource Unit: 35-7AZ; Mogollon Plateaus Pinyon-Juniper Woodland and Grassland
Ecological site name: Shallow Loamy 14-18" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R035XG717AZ
Present native vegetation: blue grama, needle and thread, black grama, bottlebrush squirreltail, muttongrass, sideoats grama
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 2 inches; loam
Bt1—2 to 8 inches; clay
Bt2—8 to 16 inches; clay
Btk—16 to 21 inches; clay
Bkm—21 to 21 inches; cemented

112—Pits-Dumps complex

Open excavations from which soil and underlying material have been removed, and areas of waste rock from mines and quarries. Includes small areas of mine processing facilities, buildings and tailings ponds.

113—Playa

Map Unit Setting

This is the Red Lake area, a barren flat subject to wind and water erosion. Seasonal ponding is rare to occasional. Much of the area is saline, sodic, or both.

114—Prieta-Rock outcrop complex, 2 to 35 percent slopes

Map Unit Setting

Landform: mesas
Elevation: 4,200 to 5,000 feet (1,280 to 1,524 meters)
Mean annual precipitation: 10 to 14 inches (254 to 356 millimeters)
Mean annual air temperature: 54 to 59 degrees F (12 to 15 degrees C)
Mean annual soil temperature: 56 to 61 degrees F (14 to 17 degrees C)
Frost-free period: 135 to 175 days

Map Unit Composition

Prieta and similar soils: 75 percent
Rock outcrop: 15 percent
Minor components: 10 percent

Properties and Qualities

Prieta soils

Taxonomic classification: Clayey-skeletal, mixed, superactive, mesic Lithic Ustic Haplargids
Parent material: Alluvium derived from basalt
Slope: 2 to 35 percent
Depth to restrictive feature: 10 to 20 inches to bedrock (paralithic); 10 to 20 inches to bedrock (lithic)
Drainage class: Well drained
Permeability: From 0.06 to 0.2 in/hr (slow)
Available water capacity total inches: 1.0
Shrink-swell potential: About 7.5 LEP (high)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 35; Colorado Plateaus
Land Resource Unit: 35-3AZ; Colorado Plateaus Sagebrush, Grassland, and Pinyon-Juniper Savanna
Ecological site name: Basalt Hills 10-14" p.z. Cobbly
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R035XC347AZ
Present native vegetation: blackbrush, sideoats grama
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 2 inches; extremely cobbly loam
Bt1—2 to 4 inches; very cobbly clay loam
Bt2—4 to 12 inches; very cobbly clay
2Cr—12 to 14 inches; weathered bedrock
2R—14 inches; unweathered bedrock

Rock outcrop

Exposures of bedrock, typically barren but may have sparse vegetation growing in cracks and crevices or in thin layers of alluvium or colluvium.

115—Quagwa silt loam, 1 to 3 percent slopes

Map Unit Setting

Landform: stream terraces
Elevation: 5,100 to 5,900 feet (1,554 to 1,798 meters)
Mean annual precipitation: 10 to 14 inches (254 to 356 millimeters)
Mean annual air temperature: 52 to 55 degrees F (11 to 13 degrees C)
Mean annual soil temperature: 54 to 57 degrees F (13 to 15 degrees C)
Frost-free period: 135 to 175 days

Map Unit Composition

Quagwa and similar soils: 85 percent
Minor components: 15 percent

Properties and Qualities

Quagwa soils

Taxonomic classification: Fine-loamy, mixed, superactive, mesic Ustic Haplargids
Parent material: Alluvium derived from mixed rock sources
Slope: 1 to 3 percent
Drainage class: Well drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 10.9
Shrink-swell potential: About 4.5 LEP (moderate)
Flooding hazard: Rare
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Low
Hydrologic group: B
Major Land Resource Area: 35; Colorado Plateaus

Land Resource Unit: 35-1AZ; Mogollon Plateaus Grassland and Pinyon-Juniper Savannah
Ecological site name: Loamy Upland 10-14" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R035XA113AZ
Present native vegetation: black grama, blue grama, sideoats grama, Indian ricegrass, bottlebrush squirreltail, galleta
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 2 inches; silt loam
Bw—2 to 5 inches; silt loam
Bt—5 to 14 inches; silt loam
Btk1—14 to 30 inches; silt loam
Btk2—30 to 50 inches; clay loam
Btk3—50 to 62 inches; loam

116—Razorback extremely gravelly sandy loam, 15 to 35 percent slopes

Map Unit Setting

Landform: hills
Elevation: 2,500 to 4,500 feet (762 to 1,372 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 64 to 70 degrees F (18 to 21 degrees C)
Mean annual soil temperature: 66 to 72 degrees F (20 to 23 degrees C)
Frost-free period: 230 to 280 days

Map Unit Composition

Razorback and similar soils: 90 percent
Minor components: 10 percent

Properties and Qualities

Razorback soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, calcareous, thermic Lithic Torriorthents
Parent material: Alluvium and colluvium derived from volcanic rock
Slope: 15 to 35 percent
Depth to restrictive feature: 4 to 20 inches to bedrock (lithic)
Drainage class: Somewhat excessively drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 0.3
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mojave Desert
Ecological site name: Andesite Hills 6-10" p.z. Coarse
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB201AZ
Present native vegetation: creosotebush, white bursage
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; extremely gravelly sandy loam
C—2 to 5 inches; very gravelly sandy loam
2R—5 inches; unweathered bedrock

117—Razorback-Rock outcrop complex, 15 to 70 percent slopes

Map Unit Setting

Landform: hills and mountains
Elevation: 2,000 to 5,000 feet (610 to 1,524 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 59 to 70 degrees F (15 to 21 degrees C)
Mean annual soil temperature: 61 to 72 degrees F (17 to 23 degrees C)
Frost-free period: 200 to 250 days

Map Unit Composition

Razorback and similar soils: 60 percent
Rock outcrop: 20 percent
Minor components: 20 percent

Properties and Qualities

Razorback soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, calcareous, thermic Lithic Torriorthents
Parent material: Alluvium derived from igneous rock and/or colluvium derived from igneous rock
Slope: 15 to 70 percent
Depth to restrictive feature: 4 to 20 inches to bedrock (lithic)

Drainage class: Somewhat excessively drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 0.9
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Basalt Hills 10-13" p.z. Limy
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC333AZ
Present native vegetation: creosotebush, rayless brittlebush, slim tridens, black grama
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; very stony loam
C—2 to 15 inches; very gravelly loam
2R—15 to 25 inches; unweathered bedrock

Rock outcrop

Exposures of bedrock, typically barren but may have sparse vegetation growing in cracks and crevices or in thin layers of alluvium or colluvium.

118—Razorback-Rock outcrop complex, 20 to 70 percent slopes

Map Unit Setting

Landform: hills and mountains
Elevation: 2,500 to 4,500 feet (762 to 1,372 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 64 to 70 degrees F (18 to 21 degrees C)
Mean annual soil temperature: 66 to 72 degrees F (20 to 23 degrees C)
Frost-free period: 230 to 280 days

Map Unit Composition

Razorback and similar soils: 65 percent
Rock outcrop: 30 percent
Minor components: 5 percent

Properties and Qualities

Razorback soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, calcareous, thermic Lithic Torriorthents
Parent material: Alluvium and colluvium derived from volcanic rock
Slope: 20 to 70 percent
Surface fragments: About 65 percent coarse gravel, about 5 percent cobbles
Depth to restrictive feature: 4 to 20 inches to bedrock (lithic)
Drainage class: Somewhat excessively drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 0.3
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mojave Desert
Ecological site name: Andesite Hills 6-10" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB220AZ
Present native vegetation: flattop buckwheat, white bursage, creosotebush, blackbrush
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; extremely gravelly loam
C—2 to 5 inches; very gravelly loam
2R—5 inches; unweathered bedrock

Rock outcrop

Exposures of bedrock, typically barren but may have sparse vegetation growing in cracks and crevices or in thin layers of alluvium or colluvium.

119—Rift silt loam, 0 to 1 percent slopes, frequently flooded

Map Unit Setting

Landform: basin floors
Elevation: 2,800 to 3,000 feet (854 to 914 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 57 to 70 degrees F (14 to 21 degrees C)
Mean annual soil temperature: 59 to 72 degrees F (16 to 23 degrees C)
Frost-free period: 200 to 280 days

Map Unit Composition

Rift and similar soils: 75 percent
Minor components: 25 percent

Properties and Qualities

Rift soils

Taxonomic classification: Fine-silty, mixed, superactive, calcareous, thermic Typic Torrifluvents
Parent material: Alluvium derived from mixed rock sources
Slope: 0 to 1 percent
Surface fragments: About 2 percent coarse gravel
Drainage class: Well drained
Permeability: From 0.06 to 0.2 in/hr (slow)
Available water capacity total inches: 11.8
Shrink-swell potential: About 4.5 LEP (moderate)
Flooding hazard: Frequent
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: High
Hydrologic group: C
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mojave Desert
Ecological site name: Loamy Wash 6-10" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB231AZ
Present native vegetation: fourwing saltbush, alkali sacaton, shadscale saltbush
Land capability (nonirrigated): 7c

Typical Profile

C1—0 to 3 inches; silt loam
C2—3 to 29 inches; silt loam
C3—29 to 51 inches; silty clay loam
2Bwb—51 to 60 inches; clay loam

120—Rift silty clay loam, 0 to 1 percent slopes

Map Unit Setting

Landform: basin floors
Elevation: 2,800 to 3,500 feet (854 to 1,067 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 57 to 70 degrees F (14 to 21 degrees C)
Mean annual soil temperature: 59 to 72 degrees F (16 to 23 degrees C)
Frost-free period: 200 to 280 days

Map Unit Composition

Rift and similar soils: 85 percent
Minor components: 15 percent

Properties and Qualities

Rift soils

Taxonomic classification: Fine-silty, mixed, superactive, calcareous, thermic Typic Torrifluvents
Parent material: Alluvium derived from mixed rock sources
Slope: 0 to 1 percent
Surface fragments: About 2 percent coarse gravel
Drainage class: Well drained
Permeability: From 0.06 to 0.2 in/hr (slow)
Available water capacity total inches: 11.2
Shrink-swell potential: About 4.5 LEP (moderate)
Flooding hazard: Frequent
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: High
Hydrologic group: C
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mojave Desert
Ecological site name: Loamy Wash 6-10" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB231AZ
Present native vegetation: fourwing saltbush, alkali sacaton, shadscale saltbush
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 4 inches; silty clay loam
C—4 to 16 inches; silty clay loam
Cn1—16 to 23 inches; silty clay loam
Cn2—23 to 44 inches; silt loam
C'—44 to 60 inches; sandy clay loam

121—Rillino family-Shamock family-Dutchflat complex, 1 to 4 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 3,000 to 3,400 feet (914 to 1,036 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 59 to 64 degrees F (15 to 18 degrees C)

Mean annual soil temperature: 61 to 66 degrees F (17 to 20 degrees C)
Frost-free period: 200 to 230 days

Map Unit Composition

Rillino family and similar soils: 50 percent
Shamock family and similar soils: 25 percent
Dutchflat and similar soils: 20 percent
Minor components: 5 percent

Properties and Qualities

Rillino family soils

Taxonomic classification: Coarse-loamy, mixed, superactive, thermic Typic Haplocalcids
Parent material: Alluvium derived from mixed rock sources
Slope: 1 to 4 percent
Drainage class: Well drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 4.6
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very low
Hydrologic group: B
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mojave Desert
Ecological site name: Limy Fan 6-10" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB211AZ
Present native vegetation: big galleta, white bursage, creosotebush, Joshua tree
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; sandy loam
Bw—2 to 11 inches; sandy loam
Bk1—11 to 16 inches; gravelly sandy loam
Bk2—16 to 39 inches; gravelly sandy loam
C1—39 to 49 inches; gravelly sandy loam
C2—49 to 60 inches; extremely gravelly sandy loam

Shamock family soils

Taxonomic classification: Coarse-loamy, mixed, superactive, thermic Typic Haplodurids
Parent material: Alluvium derived from mixed rock sources
Slope: 1 to 4 percent
Surface fragments: About 20 percent coarse gravel
Depth to restrictive feature: 20 to 40 inches to duripan
Drainage class: Well drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 3.4
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: B
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mojave Desert
Ecological site name: Limy Upland 6-10" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB214AZ
Present native vegetation: creosotebush, white bursage, big galleta
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; gravelly sandy loam
Bk—2 to 22 inches; loam
2Bkqm—22 to 60 inches; indurated

Dutchflat soils

Taxonomic classification: Fine-loamy, mixed, superactive, thermic Typic Haplargids
Parent material: Alluvium derived from igneous and metamorphic rock
Slope: 1 to 4 percent
Drainage class: Well drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 7.7
Shrink-swell potential: About 4.5 LEP (moderate)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Low
Hydrologic group: B
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mojave Desert
Ecological site name: Sandy Loam Upland 6-10" p.z. Fine
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB226AZ
Present native vegetation: big galleta, white burrobrush
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; sandy loam
Bw—2 to 4 inches; sandy loam
Bt—4 to 37 inches; sandy clay loam
C—37 to 60 inches; coarse sandy loam

122—Rock outcrop-Appleseed complex, 35 to 75 percent slopes

Map Unit Setting

Landform: hills and mountains
Elevation: 1,100 to 1,600 feet (335 to 488 meters)
Mean annual precipitation: 3 to 6 inches (76 to 152 millimeters)
Mean annual air temperature: 70 to 78 degrees F (21 to 26 degrees C)
Mean annual soil temperature: 72 to 80 degrees F (23 to 28 degrees C)
Frost-free period: 280 to 320 days

Map Unit Composition

Rock outcrop: 50 percent
Appleseed and similar soils: 40 percent
Minor components: 10 percent

Properties and Qualities

Rock outcrop

Exposures of bedrock, typically barren but may have sparse vegetation growing in cracks and crevices or in thin layers of alluvium or colluvium.

Appleseed soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, calcareous, hyperthermic Lithic Torriorthents
Parent material: Colluvium derived from limestone
Slope: 35 to 75 percent
Surface fragments: About 50 percent coarse gravel, about 20 percent cobbles, about 10 percent stones
Depth to restrictive feature: 4 to 20 inches to bedrock (lithic)
Drainage class: Somewhat excessively drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 0.3
Shrink-swell potential: About 2.0 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-1AZ; Lower Mojave Desert
Ecological site name: Limestone Hills 3-6" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XA126AZ
Present native vegetation: white brittlebush
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; extremely cobbly sandy loam
Bk—2 to 8 inches; extremely cobbly sandy loam
2R—8 inches; unweathered bedrock

123—Rock outcrop-Pearce complex, 35 to 75 percent slopes

Map Unit Setting

Landform: mountains
Elevation: 1,600 to 3,000 feet (488 to 914 meters)
Mean annual precipitation: 6 to 9 inches (152 to 229 millimeters)
Mean annual air temperature: 64 to 70 degrees F (18 to 21 degrees C)
Mean annual soil temperature: 66 to 72 degrees F (20 to 23 degrees C)
Frost-free period: 230 to 280 days

Map Unit Composition

Rock outcrop: 55 percent
Pearce and similar soils: 30 percent
Minor components: 15 percent

Properties and Qualities

Rock outcrop

Exposures of bedrock, typically barren but may have sparse vegetation growing in cracks and crevices or in thin layers of alluvium or colluvium.

Pearce soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, calcareous, thermic Lithic Torriorthents
Parent material: Colluvium derived from limestone
Slope: 35 to 75 percent
Surface fragments: About 30 percent coarse gravel, about 30 percent cobbles, about 10 percent stones
Depth to restrictive feature: 5 to 20 inches to bedrock (lithic)
Drainage class: Somewhat excessively drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 0.6
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet

Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mojave Desert
Ecological site name: Limestone Hills 6-10" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB210AZ
Present native vegetation: white bursage, creosotebush, Nevada Mormon tea
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 1 inch; very cobbly sandy loam
Bk—1 to 7 inches; very cobbly sandy loam
2R—7 inches; unweathered bedrock

124—Rock outcrop-Razorback complex, 20 to 70 percent slopes

Map Unit Setting

Landform: hills and mountains
Elevation: 2,000 to 5,000 feet (610 to 1,524 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 59 to 70 degrees F (15 to 21 degrees C)
Mean annual soil temperature: 61 to 72 degrees F (17 to 23 degrees C)
Frost-free period: 200 to 250 days

Map Unit Composition

Rock outcrop: 65 percent
Razorback and similar soils: 30 percent
Minor components: 5 percent

Properties and Qualities

Rock outcrop

Exposures of bedrock, typically barren but may have sparse vegetation growing in cracks and crevices or in thin layers of alluvium or colluvium.

Razorback soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, calcareous, thermic Lithic Torriorthents
Parent material: Alluvium derived from igneous rock and/or colluvium derived from igneous rock
Slope: 20 to 70 percent
Depth to restrictive feature: 4 to 20 inches to bedrock (lithic)
Drainage class: Somewhat excessively drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 0.9
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mojave Desert
Ecological site name: Andesite Hills 6-10" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB220AZ
Present native vegetation: flattop buckwheat, white bursage, creosotebush, blackbrush
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; very gravelly sandy loam
C—2 to 15 inches; very gravelly loam
2R—15 to 25 inches; unweathered bedrock

125—Rock outcrop-Torriorthents complex, 35 to 75 percent slopes

Map Unit Setting

Landform: hills and mountains
Elevation: 3,800 to 5,000 feet (1,158 to 1,524 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 59 to 70 degrees F (15 to 21 degrees C)
Mean annual soil temperature: 61 to 72 degrees F (17 to 23 degrees C)
Frost-free period: 200 to 280 days

Map Unit Composition

Rock outcrop: 50 percent
Torriorthents and similar soils: 40 percent
Minor components: 10 percent

Properties and Qualities

Rock outcrop

Exposures of bedrock, typically barren but may have sparse vegetation growing in cracks and crevices or in thin layers of alluvium or colluvium.

Torriorthents soils

Taxonomic classification: Torriorthents

Parent material: Alluvium and colluvium derived from mixed rock sources
Slope: 35 to 75 percent
Drainage class: Well drained
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Sedimentary Cliffs 10-13" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC312AZ
Land capability (nonirrigated): 7c

Typical Profile

Soils in this landscape position are highly variable with respect to depth, texture, color, and/or chemical properties. Therefore, physical and chemical properties of specific horizons are not given, and interpretations such as erodibility are not determined. The taxonomic unit description is representative of what may be found in this landscape position.

126—Rock outcrop-Torriorthents, cool complex, 35 to 75 percent slopes

Map Unit Setting

Landform: hills and mountains
Landform: mountain
Elevation: 3,800 to 4,990 feet (1,158 to 1,522 meters)
Mean annual precipitation: 10 to 14 inches (254 to 356 millimeters)
Mean annual air temperature: 57 to 59 degrees F (14 to 15 degrees C)
Mean annual soil temperature: 59 to 61 degrees F (16 to 17 degrees C)
Frost-free period: 180 to 200 days

Map Unit Composition

Rock outcrop: 50 percent
Torriorthents and similar soils: 40 percent
Minor components: 10 percent

Properties and Qualities

Rock outcrop

Exposures of bedrock, typically barren but may have sparse vegetation growing in cracks and crevices or in thin layers of alluvium or colluvium.

Torriorthents soils

Taxonomic classification: Torriorthents
Parent material: Alluvium and colluvium derived from mixed rock sources
Slope: 35 to 75 percent
Drainage class: Well drained
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Hydrologic group: D
Major Land Resource Area: 35; Colorado Plateau
Land Resource Unit: 35-3AZ; Colorado Plateau Sagebrush, Grassland, and Pinyon-Juniper Savanna
Ecological site name: Sedimentary Cliffs 10-14" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R035XC302AZ
Land capability (nonirrigated): 6c

Typical Profile

Soils in this landscape position are highly variable with respect to depth, texture, color, and/or chemical properties. Therefore, physical and chemical properties of specific horizons are not given, and interpretations such as erodibility are not determined. The taxonomic unit description is representative of what may be found in this landscape position.

127—Rock outcrop-Valena-Kopie family complex, 5 to 35 percent slopes

Map Unit Setting

Landform: hills and plateaus
Elevation: 5,000 to 5,500 feet (1,524 to 1,676 meters)
Mean annual precipitation: 14 to 18 inches (356 to 457 millimeters)
Mean annual air temperature: 48 to 52 degrees F (9 to 11 degrees C)
Mean annual soil temperature: 50 to 54 degrees F (11 to 13 degrees C)
Frost-free period: 135 to 150 days

Map Unit Composition

Rock outcrop: 50 percent
Valena and similar soils: 25 percent

Kopie family and similar soils: 20 percent
Minor components: 5 percent

Properties and Qualities

Rock outcrop

Exposures of bedrock, typically barren but may have sparse vegetation growing in cracks and crevices or in thin layers of alluvium or colluvium.

Valena soils

Taxonomic classification: Loamy, mixed, superactive, mesic Lithic Haplustalfs
Parent material: Alluvium derived from igneous and metamorphic rock
Slope: 5 to 35 percent
Surface fragments: About 30 percent coarse gravel
Depth to restrictive feature: 10 to 20 inches to bedrock (lithic)
Drainage class: Well drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 1.7
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 38; Mogollon Transition
Land Resource Unit: 38-1AZ; Mogollon Transition Interior Chaparral, Grassland, and Pinyon-Juniper Savannah
Ecological site name: Granitic Upland 12-16" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R038XA119AZ
Present native vegetation: turbinella oak, Utah juniper, desert ceanothus, pointleaf manzanita, black grama, broom snakeweed
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 2 inches; sandy loam
Bw—2 to 7 inches; sandy loam
2Bt—7 to 12 inches; sandy clay loam
2R—12 inches; unweathered bedrock

Kopie family soils

Taxonomic classification: Loamy, mixed, active, mesic Lithic Haplustepts
Parent material: Alluvium derived from granite over residuum weathered from granite
Slope: 5 to 35 percent
Surface fragments: About 20 percent coarse gravel
Depth to restrictive feature: 10 to 19 inches to bedrock (lithic)
Drainage class: Well drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 1.5
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 38; Mogollon Transition
Land Resource Unit: 38-1AZ; Mogollon Transition Interior Chaparral, Grassland, and Pinyon-Juniper Savannah
Ecological site name: Granitic Upland 12-16" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R038XA119AZ
Present native vegetation: turbinella oak, Utah juniper, desert ceanothus, pointleaf manzanita, black grama, broom snakeweed
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 2 inches; gravelly sandy loam
Bw—2 to 16 inches; gravelly sandy loam
2R—16 inches; unweathered bedrock

128—Rolie-Dean complex, 2 to 20 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 4,500 to 5,200 feet (1,372 to 1,585 meters)
Mean annual precipitation: 10 to 14 inches (254 to 356 millimeters)
Mean annual air temperature: 52 to 55 degrees F (11 to 13 degrees C)
Mean annual soil temperature: 54 to 57 degrees F (13 to 15 degrees C)
Frost-free period: 135 to 175 days

Map Unit Composition

Rolie and similar soils: 60 percent
Dean and similar soils: 25 percent

Minor components: 15 percent

Properties and Qualities

Rolie soils

Taxonomic classification: Loamy, mixed, superactive, mesic, shallow Ustic Petrocalcids
Parent material: Alluvium derived from limestone
Slope: 2 to 20 percent
Surface fragments: About 40 percent coarse gravel
Depth to restrictive feature: 6 to 20 inches to petrocalcic
Drainage class: Well drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 1.2
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 35; Colorado Plateaus
Land Resource Unit: 35-1AZ; Mogollon Plateaus Grassland and Pinyon-Juniper Savannah
Ecological site name: Limy Upland 9-13" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R035XA111AZ
Present native vegetation: blue grama, Utah juniper, broom snakeweed, black grama
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 1 inch; very gravelly loam
Bk1—1 to 4 inches; gravelly loam
Bk2—4 to 9 inches; cobbly loam
Bkm1—9 to 15 inches; cemented
Bkm2—15 to 60 inches; indurated

Dean soils

Taxonomic classification: Fine-loamy, carbonatic, mesic Ustic Haplocalcids
Parent material: Alluvium derived from limestone
Slope: 2 to 20 percent
Surface fragments: About 75 percent coarse gravel, about 5 percent cobbles
Drainage class: Well drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 7.4
Shrink-swell potential: About 4.5 LEP (moderate)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Medium
Hydrologic group: B
Major Land Resource Area: 35; Colorado Plateaus
Land Resource Unit: 35-1AZ; Mogollon Plateaus Grassland and Pinyon-Juniper Savannah
Ecological site name: Limy Upland 10-14" p.z. Shallow
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R035XA125AZ
Present native vegetation: Utah juniper, broom snakeweed, black grama, blue grama, Aristida, Hesperostipa
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 2 inches; extremely gravelly loam
Bw—2 to 6 inches; gravelly loam
Bk1—6 to 16 inches; gravelly loam
Bk2—16 to 21 inches; very gravelly loam
Bk3—21 to 28 inches; gravelly loam
2Bk4—28 to 60 inches; gravelly loam

129—Romero-Chiricahua-Rock outcrop complex, 5 to 35 percent slopes

Map Unit Setting

Landform: hills and mountains
Elevation: 3,400 to 5,600 feet (1,036 to 1,707 meters)
Mean annual precipitation: 12 to 16 inches (305 to 406 millimeters)
Mean annual air temperature: 57 to 61 degrees F (14 to 16 degrees C)
Mean annual soil temperature: 59 to 63 degrees F (16 to 18 degrees C)
Frost-free period: 180 to 210 days

Map Unit Composition

Romero and similar soils: 45 percent
Chiricahua and similar soils: 30 percent
Rock outcrop: 20 percent
Minor components: 5 percent

Properties and Qualities

Romero soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, nonacid, thermic, shallow Ustic Torriorthents
Parent material: Alluvium derived from granite
Slope: 5 to 35 percent
Surface fragments: About 20 percent cobbles, about 5 percent stones, about 40 percent coarse gravel
Depth to restrictive feature: 6 to 20 inches to bedrock (lithic)

Drainage class: Well drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 0.4
Shrink-swell potential: About 4.5 LEP (moderate)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 38; Mogollon Transition
Land Resource Unit: 38-1AZ; Mogollon Transition Interior Chaparral, Grassland, and Pinyon-Juniper Savannah
Ecological site name: Granitic Hills 12-16" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R038XA104AZ
Present native vegetation: turbinella oak, Utah juniper, Eriogonum, singleleaf pinyon, Colorado pinyon
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 1 inch; extremely cobbly sandy loam
Bw—1 to 6 inches; very gravelly sandy clay loam
Cr—6 to 60 inches; weathered bedrock

Chiricahua soils

Taxonomic classification: Clayey, mixed, superactive, thermic, shallow Ustic Haplargids
Parent material: Alluvium derived from granite
Slope: 5 to 35 percent
Surface fragments: About 10 percent cobbles, about 40 percent coarse gravel
Depth to restrictive feature: 16 to 24 inches to bedrock (paralithic); 22 to 40 inches to bedrock (lithic)
Drainage class: Well drained
Permeability: From 0.06 to 0.2 in/hr (slow)
Available water capacity total inches: 2.0
Shrink-swell potential: About 7.5 LEP (high)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 38; Mogollon Transition
Land Resource Unit: 38-1AZ; Mogollon Transition Interior Chaparral, Grassland, and Pinyon-Juniper Savannah
Ecological site name: Granitic Hills 12-16" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R038XA104AZ
Present native vegetation: turbinella oak, Utah juniper, Eriogonum, singleleaf pinyon, Colorado pinyon
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 1 inch; very gravelly sandy loam
Bt1—1 to 6 inches; sandy clay
Bt2—6 to 14 inches; sandy clay
Bt3—14 to 16 inches; gravelly sandy clay
2Cr—16 to 22 inches; weathered bedrock
2R—22 inches; unweathered bedrock

Rock outcrop

Exposures of bedrock, typically barren but may have sparse vegetation growing in cracks and crevices or in thin layers of alluvium or colluvium.

130—Romero-Lampshire-Rock outcrop complex, 35 to 70 percent slopes

Map Unit Setting

Landform: hills and mountains
Elevation: 3,400 to 5,200 feet (1,036 to 1,585 meters)
Mean annual precipitation: 12 to 16 inches (305 to 406 millimeters)
Mean annual air temperature: 57 to 61 degrees F (14 to 16 degrees C)
Mean annual soil temperature: 59 to 63 degrees F (16 to 18 degrees C)
Frost-free period: 180 to 210 days

Map Unit Composition

Romero and similar soils: 60 percent
Lampshire and similar soils: 20 percent
Rock outcrop: 15 percent
Minor components: 5 percent

Properties and Qualities

Romero soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, nonacid, thermic, shallow Ustic Torriorthents
Parent material: Alluvium derived from granite
Slope: 35 to 70 percent
Surface fragments: About 30 percent cobbles, about 20 percent coarse gravel, about 10 percent stones
Depth to restrictive feature: 4 to 20 inches to bedrock (paralithic)
Drainage class: Well drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 0.4
Shrink-swell potential: About 4.5 LEP (moderate)
Flooding hazard: None

Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 38; Mogollon Transition
Land Resource Unit: 38-1AZ; Mogollon Transition Interior Chaparral, Grassland, and Pinyon-Juniper Savannah
Ecological site name: Granitic Hills 12-16" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R038XA104AZ
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 1 inch; extremely cobbly sandy loam
Bw—1 to 6 inches; very gravelly sandy clay loam
2Cr—6 to 60 inches; weathered bedrock

Lampshire soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, nonacid, thermic Lithic Ustic Torriorthents
Parent material: Alluvium derived from granite
Slope: 35 to 70 percent
Surface fragments: About 70 percent coarse gravel
Depth to restrictive feature: 4 to 20 inches to bedrock (paralithic); 4 to 20 inches to bedrock (lithic)
Drainage class: Well drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 0.4
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 38; Mogollon Transition
Land Resource Unit: 38-1AZ; Mogollon Transition Interior Chaparral, Grassland, and Pinyon-Juniper Savannah
Ecological site name: Granitic Hills 12-16" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R038XA104AZ
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 1 inch; gravelly coarse sandy loam
C—1 to 6 inches; very gravelly sandy loam
Cr—6 to 17 inches; weathered bedrock
R—17 inches; unweathered bedrock

Rock outcrop

Exposures of bedrock, typically barren but may have sparse vegetation growing in cracks and crevices or in thin layers of alluvium or colluvium.

131—Rositas sand, 4 to 30 percent slopes

Map Unit Setting

Landform: dunes
Elevation: 1,100 to 1,300 feet (335 to 396 meters)
Mean annual precipitation: 3 to 6 inches (76 to 152 millimeters)
Mean annual air temperature: 70 to 78 degrees F (21 to 26 degrees C)
Mean annual soil temperature: 72 to 80 degrees F (23 to 28 degrees C)
Frost-free period: 280 to 320 days

Map Unit Composition

Rositas and similar soils: 80 percent
Minor components: 20 percent

Properties and Qualities

Rositas soils

Taxonomic classification: Mixed, hyperthermic Typic Torripsamments
Parent material: Eolian sands derived from mixed rock sources
Slope: 4 to 30 percent
Drainage class: Somewhat excessively drained
Permeability: From 6.0 to 20 in/hr (rapid)
Available water capacity total inches: 4.2
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: Very Rare
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very low
Hydrologic group: A
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-1AZ; Lower Mojave Desert
Ecological site name: Sandy Upland 3-6" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XA113AZ
Present native vegetation: big galleta
Land capability (nonirrigated): 7c

Typical Profile

C—0 to 60 inches; sand

132—Shortbread loamy sand, 1 to 4 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 3,000 to 3,600 feet (914 to 1,097 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 57 to 64 degrees F (14 to 18 degrees C)
Mean annual soil temperature: 59 to 66 degrees F (16 to 20 degrees C)
Frost-free period: 200 to 230 days

Map Unit Composition

Shortbread and similar soils: 85 percent
Minor components: 15 percent

Properties and Qualities

Shortbread soils

Taxonomic classification: Sandy, mixed, thermic Typic Torriorthents
Parent material: Alluvium derived from mixed rock sources
Slope: 1 to 4 percent
Surface fragments: About 2 percent coarse gravel
Drainage class: Somewhat excessively drained
Permeability: From 6.0 to 20 in/hr (rapid)
Available water capacity total inches: 5.1
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Negligible
Hydrologic group: A
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mojave Desert
Ecological site name: Sandy Upland 6-10" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB221AZ
Present native vegetation: big galleta, white burrobrush, Sporobolus
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 1 inch; loamy sand
C1—1 to 28 inches; loamy sand
C2—28 to 38 inches; sandy loam
C3—38 to 60 inches; loamy sand

133—Shortbread-Kurstan family-Dusty complex, 0 to 7 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 2,800 to 3,000 feet (853 to 914 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 59 to 64 degrees F (15 to 18 degrees C)
Mean annual soil temperature: 61 to 66 degrees F (17 to 20 degrees C)
Frost-free period: 200 to 230 days

Map Unit Composition

Shortbread and similar soils: 40 percent
Kurstan family and similar soils: 30 percent
Dusty and similar soils: 20 percent
Minor components: 10 percent

Properties and Qualities

Shortbread soils

Taxonomic classification: Sandy, mixed, thermic Typic Torriorthents
Parent material: Alluvium derived from mixed rock sources
Slope: 1 to 4 percent
Drainage class: Somewhat excessively drained
Permeability: From 6.0 to 20 in/hr (rapid)
Available water capacity total inches: 5.1
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Negligible
Hydrologic group: B
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mojave Desert
Ecological site name: Sandy Upland 6-10" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB221AZ
Present native vegetation: big galleta, white burrobrush, Sporobolus
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 1 inch; loamy sand

C1—1 to 21 inches; loamy sand
C2—21 to 30 inches; sandy loam
C3—30 to 60 inches; loamy sand

Kurstan family soils

Taxonomic classification: Coarse-loamy, mixed, superactive, thermic Durinodic Haplocalcids
Parent material: Alluvium derived from mixed rock sources
Slope: 0 to 4 percent
Surface fragments: About 2 percent coarse gravel
Drainage class: Well drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 8.0
Shrink-swell potential: About 7.5 LEP (high)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very low
Hydrologic group: B
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mojave Desert
Ecological site name: Sandy Loam Upland 6-10" p.z. Limy
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB215AZ
Present native vegetation: big galleta, fourwing saltbush, shadscale saltbush, winterfat
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; sandy loam
Bw—2 to 15 inches; sandy loam
Bk—15 to 29 inches; sandy loam
Bkq1—29 to 42 inches; sandy loam
Bkq2—42 to 60 inches; clay loam

Dusty soils

Taxonomic classification: Fine-loamy, mixed, superactive, thermic Typic Natrargids
Parent material: Alluvium derived from mixed rock sources
Slope: 0 to 1 percent
Surface fragments: About 3 percent coarse gravel
Drainage class: Well drained
Permeability: From 0.001 to 0.06 in/hr (very slow)
Available water capacity total inches: 11.9
Shrink-swell potential: About 4.5 LEP (moderate)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: High
Hydrologic group: C
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mojave Desert
Ecological site name: Loamy Swale 6-10" p.z. Sodic
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB229AZ
Present native vegetation: big galleta, shadscale saltbush, alkali sacaton
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 3 inches; silty clay loam
Btkn—3 to 12 inches; clay loam
Bk1—12 to 26 inches; clay loam
Bk2—26 to 56 inches; clay loam
2Bwb—56 to 60 inches; silty clay loam

134—Skelon family-Greyeagle family-Detrital complex, 3 to 30 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 3,200 to 3,800 feet (975 to 1,158 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 59 to 68 degrees F (15 to 20 degrees C)
Mean annual soil temperature: 61 to 70 degrees F (17 to 22 degrees C)
Frost-free period: 180 to 260 days

Map Unit Composition

Skelon family and similar soils: 35 percent
Greyeagle family and similar soils: 30 percent
Detrital and similar soils: 20 percent
Minor components: 15 percent

Properties and Qualities

Skelon family soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, thermic Typic Haplodurids
Parent material: Alluvium derived from mixed rock sources
Slope: 3 to 30 percent
Surface fragments: About 30 percent coarse gravel
Depth to restrictive feature: 20 to 40 inches to duripan
Drainage class: Well drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 1.6
Shrink-swell potential: About 1.5 LEP (low)

Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: C
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Sandy Loam Upland 10-13" p.z. Limy, Skeletal
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC318AZ
Present native vegetation: blackbrush, creosotebush, Joshua tree
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 1 inch; gravelly sandy loam
Bw—1 to 16 inches; gravelly sandy loam
Bk—16 to 26 inches; extremely gravelly sandy loam
Bkqm—26 to 26 inches; indurated

Greyeagle family soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, thermic, shallow Typic Haplodurids
Parent material: Alluvium derived from mixed rock sources
Slope: 3 to 8 percent
Surface fragments: About 40 percent coarse gravel
Depth to restrictive feature: 4 to 20 inches to duripan
Drainage class: Somewhat excessively drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 0.6
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Sandy Loam Upland 10-13" p.z. Limy, Skeletal, Shallow
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC323AZ
Present native vegetation: blackbrush, creosotebush, white bursage, Nevada Mormon tea
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 1 inch; very gravelly sandy loam
Bk—1 to 9 inches; very gravelly sandy loam
Bkqm—9 to 9 inches; indurated

Detrital soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, thermic Typic Haplocambids
Parent material: Alluvium derived from mixed rock sources
Slope: 3 to 30 percent
Surface fragments: About 30 percent coarse gravel
Drainage class: Somewhat excessively drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 3.6
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Low
Hydrologic group: A
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Sandy Loam Upland 10-13" p.z. Limy, Skeletal
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC318AZ
Present native vegetation: blackbrush, creosotebush, Joshua tree
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; very gravelly sandy loam
Bw—2 to 60 inches; very gravelly sandy loam

135—Skelon-Pinaleno families complex, 1 to 4 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 2,500 to 2,800 feet (762 to 854 meters)
Mean annual precipitation: 6 to 9 inches (152 to 229 millimeters)
Mean annual air temperature: 64 to 70 degrees F (18 to 21 degrees C)
Mean annual soil temperature: 66 to 72 degrees F (20 to 23 degrees C)
Frost-free period: 230 to 280 days

Map Unit Composition

Skelon family and similar soils: 60 percent
Pinaleno family and similar soils: 30 percent
Minor components: 10 percent

Properties and Qualities

Skelon family soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, thermic Typic Haplodurids
Parent material: Alluvium derived from mixed rock sources
Slope: 1 to 4 percent
Surface fragments: About 50 percent coarse gravel
Depth to restrictive feature: 20 to 40 inches to duripan
Drainage class: Well drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 1.1
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: C
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mojave Desert
Ecological site name: Limy Upland 6-10" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB214AZ
Present native vegetation: creosotebush, white bursage, big galleta
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; very gravelly sandy loam
Bk—2 to 27 inches; very gravelly sandy loam
Bkqm—27 to 60 inches; indurated

Pinaleno family soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, thermic Typic Calciargids
Parent material: Alluvium derived from mixed rock sources
Slope: 1 to 4 percent
Surface fragments: About 45 percent coarse gravel, about 5 percent cobbles
Drainage class: Well drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 4.1
Shrink-swell potential: About 1.0 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very low
Hydrologic group: B
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mojave Desert
Ecological site name: Limy Fan 6-10" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB211AZ
Present native vegetation: big galleta, white bursage, creosotebush, Joshua tree
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; very gravelly sandy loam
Bt—2 to 8 inches; gravelly sandy clay loam
Btk—8 to 13 inches; gravelly sandy clay loam
Bk—13 to 60 inches; very gravelly sandy loam

136—Storybook very gravelly loam, 1 to 3 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 2,300 to 2,900 feet (701 to 884 meters)
Mean annual precipitation: 6 to 9 inches (152 to 229 millimeters)
Mean annual air temperature: 62 to 68 degrees F (17 to 20 degrees C)
Mean annual soil temperature: 64 to 70 degrees F (19 to 22 degrees C)
Frost-free period: 230 to 280 days

Map Unit Composition

Storybook and similar soils: 80 percent
Minor components: 20 percent

Properties and Qualities

Storybook soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, calcareous, thermic Typic Torriorthents
Parent material: Alluvium derived from granite
Slope: 1 to 3 percent
Surface fragments: About 40 percent coarse gravel
Drainage class: Somewhat excessively drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 4.4
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Low

Hydrologic group: A
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mojave Desert
Ecological site name: Sandy Loam Upland 6-10" p.z. Limy Subsurface, Gravelly
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB205AZ
Present native vegetation: creosotebush, big galleta, white bursage
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; very gravelly sandy loam
C—2 to 25 inches; very gravelly sandy loam
2Bknb1—25 to 35 inches; gravelly sandy loam
2Bknb2—35 to 60 inches; very gravelly sandy loam

137—Stronghold-McAllister families complex, 2 to 15 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 3,500 to 4,500 feet (1,067 to 1,372 meters)
Mean annual precipitation: 9 to 12 inches (228 to 305 millimeters)
Mean annual air temperature: 59 to 64 degrees F (15 to 18 degrees C)
Mean annual soil temperature: 61 to 66 degrees F (17 to 20 degrees C)
Frost-free period: 170 to 230 days

Map Unit Composition

Stronghold family and similar soils: 45 percent
McAllister family and similar soils: 35 percent
Minor components: 20 percent

Properties and Qualities

Stronghold family soils

Taxonomic classification: Coarse-loamy, mixed, superactive, thermic Ustic Haplocalcids
Parent material: Alluvium derived from igneous and metamorphic rock
Slope: 2 to 15 percent
Surface fragments: About 10 percent cobbles, about 40 percent coarse gravel
Drainage class: Well drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 7.1
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Low
Hydrologic group: B
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Sandy Loam Upland 10-13" p.z. Limy Subsurface
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC352AZ
Present native vegetation: Aristida, Utah juniper, big galleta, black grama, banana yucca, Krameria
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 2 inches; gravelly sandy loam
AB—2 to 7 inches; sandy loam
Bkn1—7 to 31 inches; sandy loam
Bkn2—31 to 44 inches; sandy loam
Bkn3—44 to 60 inches; fine sandy loam

McAllister family soils

Taxonomic classification: Fine-loamy, mixed, superactive, thermic Ustic Calciargids
Parent material: Alluvium derived from igneous and metamorphic rock
Slope: 2 to 15 percent
Surface fragments: About 50 percent coarse gravel
Drainage class: Well drained
Permeability: From 0.2 to 0.6 in/hr (moderately slow)
Available water capacity total inches: 4.7
Shrink-swell potential: About 5.0 LEP (moderate)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: High
Hydrologic group: C
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Sandy Loam Upland 10-13" p.z. Limy Subsurface, Fine, Gravelly
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC336AZ
Present native vegetation: big galleta, black grama, banana yucca, Gutierrezia
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 2 inches; gravelly sandy loam
Bt—2 to 12 inches; gravelly sandy clay loam
Btkn—12 to 26 inches; gravelly sandy clay loam

2Btk—26 to 37 inches; very gravelly coarse sandy loam
2Bkn—37 to 53 inches; extremely gravelly sandy loam
2Ck—53 to 60 inches; very gravelly loamy coarse sand

138—Sunrock extremely gravelly sandy loam, 15 to 35 percent slopes

Map Unit Setting

Landform: hills
Elevation: 650 to 2,000 feet (198 to 610 meters)
Mean annual precipitation: 3 to 6 inches (76 to 152 millimeters)
Mean annual air temperature: 70 to 78 degrees F (21 to 26 degrees C)
Mean annual soil temperature: 72 to 80 degrees F (23 to 28 degrees C)
Frost-free period: 280 to 320 days

Map Unit Composition

Sunrock and similar soils: 90 percent
Minor components: 10 percent

Properties and Qualities

Sunrock soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, calcareous, hyperthermic Lithic Torriorthents
Parent material: Colluvium derived from volcanic rock
Slope: 15 to 35 percent
Depth to restrictive feature: 5 to 20 inches to bedrock (lithic)
Drainage class: Somewhat excessively drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 0.3
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-1AZ; Lower Mojave Desert
Ecological site name: Volcanic Hills 3-6" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XA118AZ
Present native vegetation: creosotebush, white brittlebush, white bursage
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; extremely gravelly sandy loam
Bw—2 to 5 inches; very gravelly sandy loam
2R—5 inches; unweathered bedrock

139—Sunrock-Rock outcrop complex, 30 to 65 percent slopes

Map Unit Setting

Landform: hills and mountains
Elevation: 650 to 2,000 feet (198 to 610 meters)
Mean annual precipitation: 3 to 6 inches (76 to 152 millimeters)
Mean annual air temperature: 70 to 78 degrees F (21 to 26 degrees C)
Mean annual soil temperature: 72 to 80 degrees F (23 to 28 degrees C)
Frost-free period: 280 to 320 days

Map Unit Composition

Sunrock and similar soils: 70 percent
Rock outcrop: 20 percent
Minor components: 10 percent

Properties and Qualities

Sunrock soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, calcareous, hyperthermic Lithic Torriorthents
Parent material: Colluvium derived from volcanic rock
Slope: 30 to 65 percent
Depth to restrictive feature: 7 to 20 inches to bedrock (lithic)
Drainage class: Somewhat excessively drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 0.3
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-1AZ; Lower Mojave Desert
Ecological site name: Volcanic Hills 3-6" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.

Ecosystem site number: R030XA118AZ
Present native vegetation: creosotebush, white brittlebush, white bursage
Land capability (nonirrigated): 7c

Typical Profile

A/B—0 to 5 inches; extremely gravelly sandy loam
Bw—5 to 7 inches; very gravelly sandy loam
2R—7 inches; unweathered bedrock

Rock outcrop

Exposures of bedrock, typically barren but may have sparse vegetation growing in cracks and crevices or in thin layers of alluvium or colluvium.

140—Superstition family-Carrwash complex, 35 to 75 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 650 to 2,000 feet (198 to 610 meters)
Mean annual precipitation: 3 to 6 inches (76 to 152 millimeters)
Mean annual air temperature: 70 to 78 degrees F (21 to 26 degrees C)
Mean annual soil temperature: 72 to 80 degrees F (23 to 28 degrees C)
Frost-free period: 280 to 320 days

Map Unit Composition

Superstition family and similar soils: 40 percent
Carrwash and similar soils: 35 percent
Minor components: 25 percent

Properties and Qualities

Superstition family soils

Taxonomic classification: Sandy, mixed, hyperthermic Typic Haplocalcids
Parent material: Alluvium derived from mixed rock sources
Slope: 35 to 75 percent
Surface fragments: About 35 percent coarse gravel, about 10 percent cobbles
Drainage class: Excessively drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 4.3
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Medium
Hydrologic group: A
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-1AZ; Lower Mojave Desert
Ecological site name: Breaks 3-6" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XA102AZ
Present native vegetation: white bursage, creosotebush, Ephedra, Krameria
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 1 inch; very gravelly loamy sand
C—1 to 7 inches; very gravelly loamy sand
Ck—7 to 23 inches; gravelly loamy sand
2C'—23 to 60 inches; fine sand

Carrwash soils

Taxonomic classification: Sandy-skeletal, mixed, hyperthermic Typic Torriorthents
Parent material: Alluvium derived from mixed rock sources
Slope: 35 to 75 percent
Surface fragments: About 65 percent coarse gravel
Drainage class: Excessively drained
Permeability: From 6.0 to 20 in/hr (rapid)
Available water capacity total inches: 1.2
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Low
Hydrologic group: B
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-1AZ; Lower Mojave Desert
Ecological site name: Breaks 3-6" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XA102AZ
Present native vegetation: white bursage, creosotebush, Ephedra, Krameria
Land capability (nonirrigated): 7c

Typical Profile

C1—0 to 4 inches; extremely gravelly loamy sand
C2—4 to 60 inches; extremely gravelly sand

141—Taine extremely cobbly loam, 12 to 35 percent slopes

Map Unit Setting

Landform: hills and mountains

Elevation: 4,000 to 5,200 feet (1,219 to 1,585 meters)
Mean annual precipitation: 10 to 14 inches (254 to 356 millimeters)
Mean annual air temperature: 52 to 55 degrees F (11 to 13 degrees C)
Mean annual soil temperature: 54 to 57 degrees F (13 to 15 degrees C)
Frost-free period: 200 to 230 days

Map Unit Composition

Taine and similar soils: 90 percent
Minor components: 10 percent

Properties and Qualities

Taine soils

Taxonomic classification: Clayey-skeletal, smectitic, mesic Lithic Ustic Haplargids
Parent material: Alluvium derived from basalt
Slope: 12 to 35 percent
Depth to restrictive feature: 4 to 20 inches to bedrock (lithic)
Drainage class: Well drained
Permeability: From 0.06 to 0.2 in/hr (slow)
Available water capacity total inches: 1.2
Shrink-swell potential: About 4.5 LEP (moderate)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 38; Mogollon Transition
Land Resource Unit: 38-1AZ; Mogollon Transition Interior Chaparral, Grassland, and Pinyon-Juniper Savannah
Ecological site name: Juniperus osteosperma/Yucca baccata-Ephedra viridis/Bouteloua curtipendula-Pleuraphis jamesii
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: F038XA122AZ
Present native vegetation: Utah juniper, sideoats grama, Aristida, blue grama, broom snakeweed
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 2 inches; extremely cobbly loam
Bt1—2 to 5 inches; extremely cobbly clay loam
Bt2—5 to 11 inches; extremely cobbly clay
Bt3—11 to 15 inches; extremely flaggy clay
2R—15 inches; unweathered bedrock

142—Thimble-Rock outcrop complex, 35 to 65 percent slopes

Map Unit Setting

Landform: hills
Elevation: 5,000 to 5,600 feet (1,524 to 1,707 meters)
Mean annual precipitation: 14 to 18 inches (356 to 457 millimeters)
Mean annual air temperature: 48 to 52 degrees F (9 to 11 degrees C)
Mean annual soil temperature: 50 to 54 degrees F (11 to 13 degrees C)
Frost-free period: 135 to 150 days

Map Unit Composition

Thimble and similar soils: 85 percent
Rock outcrop: 10 percent
Minor components: 5 percent

Properties and Qualities

Thimble soils

Taxonomic classification: Clayey-skeletal, smectitic, mesic Lithic Argiustolls
Parent material: Alluvium derived from basalt
Slope: 35 to 65 percent
Surface fragments: About 30 percent coarse gravel, about 25 percent cobbles, about 15 percent stones
Depth to restrictive feature: 8 to 18 inches to bedrock (paralithic); 10 to 20 inches to bedrock (lithic)
Drainage class: Well drained
Permeability: From 0.06 to 0.2 in/hr (slow)
Available water capacity total inches: 0.9
Shrink-swell potential: About 4.5 LEP (moderate)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 38; Mogollon Transition
Land Resource Unit: 38-1AZ; Mogollon Transition Interior Chaparral, Grassland, and Pinyon-Juniper Savannah
Ecological site name: Juniperus osteosperma-Pinus edulis/Ceanothus greggii-Purshia stansburiana/Poa fendleriana
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: F038XA132AZ
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 2 inches; extremely cobbly clay loam
Bt—2 to 10 inches; extremely cobbly clay
2Cr—10 to 15 inches; weathered bedrock
2R—15 inches; unweathered bedrock

Rock outcrop

Exposures of bedrock, typically barren but may have sparse vegetation growing in cracks and crevices or in thin layers of alluvium or colluvium.

143—Tombstone-Caralampi-Nolam families complex, 2 to 30 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 3,800 to 4,600 feet (1,158 to 1,402 meters)
Mean annual precipitation: 12 to 16 inches (305 to 406 millimeters)
Mean annual air temperature: 59 to 64 degrees F (15 to 18 degrees C)
Mean annual soil temperature: 61 to 66 degrees F (17 to 20 degrees C)
Frost-free period: 170 to 230 days

Map Unit Composition

Tombstone family and similar soils: 50 percent
Caralampi family and similar soils: 20 percent
Nolam family and similar soils: 20 percent
Minor components: 10 percent

Properties and Qualities

Tombstone family soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, thermic Ustic Haplocalcids
Parent material: Alluvium derived from igneous and metamorphic rock
Slope: 2 to 30 percent
Surface fragments: About 3 percent stones, about 6 percent cobbles, about 37 percent coarse gravel
Drainage class: Well drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 3.4
Shrink-swell potential: About 2.0 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Low
Hydrologic group: B
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Sandy Loam Slopes 10-13" p.z. Limy, Skeletal
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC331AZ
Present native vegetation: Aristida, black grama, Mexican bladdersage, banana yucca, big galleta, turbinella oak
Land capability (nonirrigated): 6c

Typical Profile

A1—0 to 2 inches; gravelly sandy loam
A2—2 to 16 inches; very cobbly sandy loam
Bk1—16 to 46 inches; very cobbly sandy loam
Bk2—46 to 60 inches; extremely cobbly sandy loam

Caralampi family soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, thermic Ustic Haplargids
Parent material: Alluvium derived from igneous and metamorphic rock
Slope: 2 to 30 percent
Surface fragments: About 25 percent coarse gravel, about 2 percent stones
Drainage class: Well drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 4.5
Shrink-swell potential: About 5.0 LEP (moderate)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Medium
Hydrologic group: B
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Sandy Loam Slopes 10-13" p.z. Fine, Skeletal
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC353AZ
Present native vegetation: black grama, flattop buckwheat, turbinella oak, Mexican bladdersage, banana yucca
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 2 inches; gravelly sandy loam
Bw—2 to 6 inches; gravelly sandy loam

Bt1—6 to 21 inches; very gravelly sandy clay loam
Bt2—21 to 32 inches; very gravelly sandy clay loam
Bk—32 to 60 inches; very cobbly sandy loam

Nolam family soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, thermic Ustic Calciargids
Parent material: Alluvium derived from igneous and metamorphic rock
Slope: 2 to 30 percent
Surface fragments: About 30 percent coarse gravel, about 3 percent cobbles, about 1 percent stones
Drainage class: Well drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 3.4
Shrink-swell potential: About 5.0 LEP (moderate)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Medium
Hydrologic group: B
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Sandy Loam Slopes 10-13" p.z. Limy, Fine, Gravelly
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC337AZ
Present native vegetation: Mexican bladdersage, Canotia, Aristida, big galleta, black grama
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 2 inches; very gravelly sandy loam
AB—2 to 5 inches; very gravelly sandy loam
Btk1—5 to 18 inches; very gravelly sandy clay loam
Btk2—18 to 24 inches; very gravelly sandy loam
Bk1—24 to 30 inches; very gravelly sandy loam
Bk2—30 to 60 inches; extremely gravelly sandy loam

144—Torriorthents, 25 to 75 percent slopes

Map Unit Setting

Landform: hills and mountains
Elevation: 1,600 to 2,800 feet (488 to 854 meters)
Mean annual precipitation: 6 to 9 inches (152 to 229 millimeters)
Mean annual air temperature: 64 to 70 degrees F (18 to 21 degrees C)
Mean annual soil temperature: 66 to 72 degrees F (20 to 23 degrees C)
Frost-free period: 230 to 280 days

Map Unit Composition

Torriorthents and similar soils: 80 percent
Minor components: 20 percent

Properties and Qualities

Torriorthents soils

Taxonomic classification: Torriorthents
Parent material: Alluvium and colluvium derived from granite
Slope: 25 to 75 percent
Drainage class: Well drained
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Hydrologic group: C
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mojave Desert
Ecological site name: Breaks 6-10" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB204AZ
Present native vegetation: white bursage, creosotebush, Nevada Mormon tea
Land capability (nonirrigated): 7c

Typical Profile

Soils in this landscape position are highly variable with respect to depth, texture, color, and/or chemical properties. Therefore, physical and chemical properties of specific horizons are not given, and interpretations such as erodibility are not determined. The taxonomic unit description is representative of what may be found in this landscape position.

145—Torriorthents, gypsic-Haplocambids, gypsic complex, 3 to 15 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 1,200 to 2,000 feet (366 to 610 meters)
Mean annual precipitation: 3 to 6 inches (76 to 152 millimeters)
Mean annual air temperature: 70 to 78 degrees F (21 to 26 degrees C)

Mean annual soil temperature: 72 to 80 degrees F (23 to 28 degrees C)
Frost-free period: 280 to 320 days

Map Unit Composition

Torriorthents and similar soils: 50 percent
Haplocambids and similar soils: 35 percent
Minor components: 15 percent

Properties and Qualities

Torriorthents soils

Taxonomic classification: Torriorthents
Parent material: Alluvium derived from gypsum over residuum weathered from gypsum
Slope: 3 to 15 percent
Drainage class: Well drained
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-1AZ; Lower Mojave Desert
Ecological site name: Gypsum Upland 3-6" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XA117AZ
Land capability (nonirrigated): 7c

Typical Profile

Soils in this landscape position are highly variable with respect to depth, texture, color, and/or chemical properties. Therefore, physical and chemical properties of specific horizons are not given, and interpretations such as erodibility are not determined. The taxonomic unit description is representative of what may be found in this landscape position.

Haplocambids soils

Taxonomic classification: Haplocambids
Parent material: Alluvium derived from gypsum over residuum weathered from gypsum
Slope: 3 to 15 percent
Drainage class: Well drained
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-1AZ; Lower Mojave Desert
Ecological site name: Gypsum Upland 3-6" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XA117AZ
Land capability (nonirrigated): 7c

Typical Profile

Soils in this landscape position are highly variable with respect to depth, texture, color, and/or chemical properties. Therefore, physical and chemical properties of specific horizons are not given, and interpretations such as erodibility are not determined. The taxonomic unit description is representative of what may be found in this landscape position.

146—Torriorthents-Rock outcrop complex, 25 to 75 percent slopes

Map Unit Setting

Landform: hills
Elevation: 1,180 to 2,000 feet (360 to 610 meters)
Mean annual precipitation: 3 to 6 inches (76 to 152 millimeters)
Mean annual air temperature: 70 to 74 degrees F (21 to 23 degrees C)
Mean annual soil temperature: 72 to 76 degrees F (23 to 25 degrees C)
Frost-free period: 250 to 325 days

Map Unit Composition

Torriorthents and similar soils: 70 percent
Rock outcrop: 15 percent
Minor components: 15 percent

Properties and Qualities

Torriorthents soils

Taxonomic classification: Torriorthents
Parent material: Alluvium and colluvium derived from tuff
Slope: 25 to 75 percent
Drainage class: Well drained
Flooding hazard: None
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-1AZ; Lower Mojave Desert
Ecological site name: Volcanic Hills 3-6" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XA118AZ
Present native vegetation: creosotebush, white brittlebush, white bursage
Land capability (nonirrigated): 7c

Typical Profile

Soils in this landscape position are highly variable

with respect to depth, texture, color, and/or chemical properties. Therefore, physical and chemical properties of specific horizons are not given, and interpretations such as erodibility are not determined. The taxonomic unit description is representative of what may be found in this landscape position.

Rock outcrop

Exposures of bedrock, typically barren but may have sparse vegetation growing in cracks and crevices or in thin layers of alluvium or colluvium.

147—Tovar-Grandwash complex, 6 to 25 percent slopes

Map Unit Setting

Landform: hills
Elevation: 5,000 to 5,800 feet (1,524 to 1,768 meters)
Mean annual precipitation: 14 to 18 inches (356 to 457 millimeters)
Mean annual air temperature: 48 to 52 degrees F (9 to 11 degrees C)
Mean annual soil temperature: 50 to 54 degrees F (11 to 13 degrees C)
Frost-free period: 135 to 150 days

Map Unit Composition

Tovar and similar soils: 50 percent
Grandwash and similar soils: 40 percent
Minor components: 10 percent

Properties and Qualities

Tovar soils

Taxonomic classification: Fine, smectitic, mesic Vertic Haplustalfs
Parent material: Alluvium derived from limestone over residuum weathered from limestone
Slope: 6 to 25 percent
Surface fragments: About 5 percent stones, about 20 percent cobbles, about 40 percent coarse gravel
Depth to restrictive feature: 20 to 40 inches to bedrock (lithic)
Drainage class: Well drained
Permeability: From 0.001 to 0.06 in/hr (very slow)
Available water capacity total inches: 4.7
Shrink-swell potential: About 7.5 LEP (high)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: C
Major Land Resource Area: 35; Colorado Plateaus
Land Resource Unit: 35-6AZ; Colorado Plateaus Pinyon-Juniper Woodland and Shrubland
Ecological site name: Juniperus osteosperma/Quercus turbinella-Eriogonum/Bouteloua gracilis-Poa fendleriana
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: F035XF636AZ
Present native vegetation: Utah juniper, narrowleaf penstemon, turbinella oak, Eriogonum, broom snakeweed
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 1 inch; gravelly clay loam
Bt—1 to 4 inches; gravelly clay loam
Bt1—4 to 7 inches; gravelly clay loam
Bt2—7 to 10 inches; gravelly clay
Bt3—10 to 29 inches; clay
R—29 inches; unweathered bedrock

Grandwash soils

Taxonomic classification: Clayey-skeletal, mixed, superactive, mesic Lithic Haplustalfs
Parent material: Colluvium derived from sandstone over residuum weathered from sandstone
Slope: 6 to 25 percent
Surface fragments: About 10 percent coarse gravel, about 30 percent cobbles, about 5 percent stones
Depth to restrictive feature: 6 to 20 inches to bedrock (lithic)
Drainage class: Well drained
Permeability: From 0.06 to 0.2 in/hr (slow)
Available water capacity total inches: 1.7
Shrink-swell potential: About 4.5 LEP (moderate)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 35; Colorado Plateaus
Land Resource Unit: 35-6AZ; Colorado Plateaus Pinyon-Juniper Woodland and Shrubland
Ecological site name: Juniperus osteosperma/Quercus turbinella-Eriogonum/Bouteloua gracilis-Poa fendleriana
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: F035XF636AZ
Present native vegetation: Utah juniper, narrowleaf penstemon, turbinella oak, Eriogonum, broom snakeweed
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 2 inches; very cobbly sandy loam
Bt1—2 to 7 inches; very cobbly clay loam
Bt2—7 to 17 inches; very cobbly silty clay
2R—17 inches; unweathered bedrock

148—Truxton complex, 1 to 3 percent slopes

Map Unit Setting

Landform: flood plains
Elevation: 4,200 to 4,700 feet (1,280 to 1,433 meters)
Mean annual precipitation: 10 to 14 inches (254 to 356 millimeters)
Mean annual air temperature: 55 to 57 degrees F (13 to 14 degrees C)
Mean annual soil temperature: 57 to 59 degrees F (15 to 16 degrees C)
Frost-free period: 180 to 200 days

Map Unit Composition

Truxton and similar soils: 75 percent
Truxton and similar soils: 15 percent
Minor components: 10 percent

Properties and Qualities

Truxton soils

Taxonomic classification: Coarse-silty, mixed, superactive, calcareous, mesic Ustic Torriorthents
Parent material: Alluvium derived from mixed rock sources
Slope: 1 to 3 percent
Surface fragments: About 2 percent coarse gravel
Drainage class: Well drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 11.3
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: Very Rare
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Low
Hydrologic group: B
Major Land Resource Area: 35; Colorado Plateaus
Land Resource Unit: 35-1AZ; Mogollon Plateaus Grassland and Pinyon-Juniper Savannah
Ecological site name: Loamy Bottom 10-14" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R035XA112AZ
Present native vegetation: burrograss, blue grama, broom snakeweed
Land capability (nonirrigated): 6c

Typical Profile

A1—0 to 2 inches; loam
A2—2 to 5 inches; silt loam
Bw1—5 to 34 inches; silt loam
Bw2—34 to 60 inches; silt loam

Truxton soils

Taxonomic classification: Coarse-silty, mixed, superactive, calcareous, mesic Ustic Torriorthents
Parent material: Alluvium derived from mixed rock sources
Slope: 1 to 3 percent
Surface fragments: About 2 percent coarse gravel
Drainage class: Well drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 11.3
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: Frequent
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Low
Hydrologic group: B
Major Land Resource Area: 35; Colorado Plateaus
Land Resource Unit: 35-1AZ; Mogollon Plateaus Grassland and Pinyon-Juniper Savannah
Ecological site name: Loamy Bottom 10-14" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R035XA112AZ
Present native vegetation: burrograss, blue grama, broom snakeweed
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 1 inch; loam
Bw—1 to 60 inches; silt loam

149—Tumarion very cobbly loam, 2 to 15 percent slopes

Map Unit Setting

Landform: mesas
Elevation: 2,200 to 3,500 feet (671 to 1,067 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 64 to 70 degrees F (18 to 21 degrees C)
Mean annual soil temperature: 66 to 72 degrees F (20 to 23 degrees C)
Frost-free period: 230 to 250 days

Map Unit Composition

Tumarion and similar soils: 85 percent
Minor components: 15 percent

Properties and Qualities

Tumarion soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, thermic, shallow Typic Haplodurids
Parent material: Alluvium derived from volcanic rock
Slope: 2 to 15 percent
Surface fragments: About 30 percent cobbles, about 25 percent coarse gravel
Depth to restrictive feature: 5 to 18 inches to duripan; 7 to 20 inches to bedrock (lithic)
Drainage class: Somewhat excessively drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 0.5
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Limy Upland 10-13" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC311AZ
Present native vegetation: Juniperus, broom snakeweed, Yucca
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 3 inches; very cobbly loam
Bk—3 to 10 inches; extremely gravelly loam
2Bkqm—10 to 12 inches; indurated
3R—12 inches; unweathered bedrock

150—Tumarion-Nickel family complex, 8 to 35 percent slopes

Map Unit Setting

Landform: mesas
Elevation: 3,200 to 4,500 feet (975 to 1,372 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 59 to 64 degrees F (15 to 18 degrees C)
Mean annual soil temperature: 61 to 66 degrees F (17 to 20 degrees C)
Frost-free period: 200 to 230 days

Map Unit Composition

Tumarion and similar soils: 70 percent
Nickel family and similar soils: 15 percent
Minor components: 15 percent

Properties and Qualities

Tumarion soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, thermic, shallow Typic Haplodurids
Parent material: Alluvium derived from basalt
Slope: 8 to 35 percent
Surface fragments: About 10 percent coarse gravel, about 60 percent cobbles, about 5 percent stones
Depth to restrictive feature: 5 to 18 inches to duripan; 7 to 20 inches to bedrock (lithic)
Drainage class: Somewhat excessively drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 1.3
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Loamy Slopes 10-13" p.z. Cobbly
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC309AZ
Present native vegetation: creosotebush, rayless brittlebush, slim tridens, black grama
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; extremely cobbly sandy loam
Bk—2 to 15 inches; very cobbly sandy loam
Bkqm—15 to 19 inches; indurated
2R—19 inches; unweathered bedrock

Nickel family soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, thermic Typic Haplocalcids
Parent material: Alluvium derived from basalt
Slope: 8 to 35 percent
Surface fragments: About 25 percent coarse gravel, about 20 percent cobbles, about 20 percent stones
Drainage class: Well drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 5.1

Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: High
Hydrologic group: B
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Basalt Hills 10-13" p.z. Limy
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC333AZ
Present native vegetation: creosotebush, big galleta, bush muhly
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 4 inches; extremely stony loam
Bw—4 to 23 inches; very cobbly silt loam
Bk1—23 to 51 inches; very cobbly loam
Bk2—51 to 60 inches; very cobbly sandy loam

151—Tumarion-Nickel family complex, moist, 5 to 40 percent slopes

Map Unit Setting

Landform: mesas
Elevation: 4,000 to 5,000 feet (1,219 to 1,524 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 59 to 64 degrees F (15 to 18 degrees C)
Mean annual soil temperature: 61 to 66 degrees F (17 to 20 degrees C)
Frost-free period: 200 to 230 days

Map Unit Composition

Tumarion and similar soils: 75 percent
Nickel family and similar soils: 15 percent
Minor components: 10 percent

Properties and Qualities

Tumarion soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, thermic, shallow Typic Haplodurids
Parent material: Alluvium derived from basalt
Slope: 5 to 40 percent
Surface fragments: About 30 percent coarse gravel, about 20 percent cobbles
Depth to restrictive feature: 5 to 18 inches to duripan; 7 to 20 inches to bedrock (lithic)
Drainage class: Somewhat excessively drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 0.3
Shrink-swell potential: About 1.0 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Basalt Hills 10-13" p.z. Limy
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC333AZ
Present native vegetation: creosotebush, rayless brittlebush, slim tridens, black grama
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; very gravelly sandy loam
Bk—2 to 16 inches; very gravelly sandy loam
Bkqm—16 to 19 inches; indurated
2R—19 inches; unweathered bedrock

Nickel family soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, thermic Typic Haplocalcids
Parent material: Alluvium derived from basalt
Slope: 5 to 40 percent
Surface fragments: About 25 percent coarse gravel, about 20 percent cobbles, about 20 percent stones
Drainage class: Well drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 5.1
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: High
Hydrologic group: B
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Loamy Slopes 10-13" p.z. Cobbly
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC309AZ
Present native vegetation: creosotebush, big galleta, bush muhly
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 4 inches; extremely stony loam
Bw—4 to 23 inches; very cobbly silt loam

Bk—23 to 51 inches; very cobbly loam
Bk3—51 to 60 inches; very cobbly sandy loam

152—Tyro extremely stony sandy loam, 3 to 35 percent slopes

Map Unit Setting

Landform: pediments
Elevation: 900 to 2,000 feet (274 to 610 meters)
Mean annual precipitation: 3 to 6 inches (76 to 152 millimeters)
Mean annual air temperature: 70 to 78 degrees F (21 to 26 degrees C)
Mean annual soil temperature: 72 to 80 degrees F (23 to 28 degrees C)
Frost-free period: 280 to 320 days

Map Unit Composition

Tyro and similar soils: 90 percent
Minor components: 10 percent

Properties and Qualities

Tyro soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, hyperthermic, shallow Typic Haplodurids
Parent material: Alluvium derived from igneous and metamorphic rock
Slope: 3 to 35 percent
Depth to restrictive feature: 5 to 19 inches to duripan; 7 to 19 inches to bedrock (lithic)
Drainage class: Somewhat excessively drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 0.5
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-1AZ; Lower Mojave Desert
Ecological site name: Sandy Loam Hills 3-6" p.z. Limy, Gravelly, Shallow
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XA120AZ
Present native vegetation: creosotebush
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; extremely stony sandy loam
Bk—2 to 11 inches; extremely gravelly sandy loam
Bkqm—11 to 18 inches; indurated
R—18 inches; unweathered bedrock

153—Tyro very gravelly sandy loam, 3 to 30 percent slopes

Map Unit Setting

Landform: pediments
Elevation: 900 to 2,600 feet (274 to 792 meters)
Mean annual precipitation: 3 to 6 inches (76 to 152 millimeters)
Mean annual air temperature: 70 to 78 degrees F (21 to 26 degrees C)
Mean annual soil temperature: 72 to 80 degrees F (23 to 28 degrees C)
Frost-free period: 280 to 320 days

Map Unit Composition

Tyro and similar soils: 90 percent
Minor components: 10 percent

Properties and Qualities

Tyro soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, hyperthermic, shallow Typic Haplodurids
Parent material: Alluvium derived from igneous and metamorphic rock
Slope: 3 to 30 percent
Surface fragments: About 60 percent coarse gravel, about 3 percent cobbles, about 2 percent stones
Depth to restrictive feature: 5 to 19 inches to duripan; 7 to 19 inches to bedrock (lithic)
Drainage class: Somewhat excessively drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 0.5
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-1AZ; Lower Mojave Desert
Ecological site name: Sandy Loam Hills 3-6" p.z. Limy, Gravelly, Shallow
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XA120AZ
Present native vegetation: creosotebush
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 1 inch; very gravelly sandy loam
Bk1—1 to 6 inches; very gravelly sandy loam
Bk2—6 to 9 inches; very gravelly coarse sandy loam
2Bkqm—9 to 14 inches; indurated
3R—14 inches; unweathered bedrock

154—Tyro-Sunrock complex, 3 to 15 percent slopes

Map Unit Setting

Landform: pediments
Elevation: 900 to 3,000 feet (274 to 914 meters)
Mean annual precipitation: 3 to 6 inches (76 to 152 millimeters)
Mean annual air temperature: 70 to 78 degrees F (21 to 26 degrees C)
Mean annual soil temperature: 72 to 80 degrees F (23 to 28 degrees C)
Frost-free period: 280 to 320 days

Map Unit Composition

Tyro and similar soils: 55 percent
Sunrock and similar soils: 35 percent
Minor components: 10 percent

Properties and Qualities

Tyro soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, hyperthermic, shallow Typic Haplodurids
Parent material: Alluvium derived from basalt
Slope: 3 to 15 percent
Surface fragments: About 70 percent coarse gravel
Depth to restrictive feature: 5 to 19 inches to duripan
Drainage class: Somewhat excessively drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 0.6
Shrink-swell potential: About 1.0 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-1AZ; Lower Mojave Desert
Ecological site name: Basalt Upland 3-6" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XA124AZ
Present native vegetation: creosotebush, white bursage
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; extremely gravelly loam
Bk1—2 to 8 inches; extremely gravelly loam
Bk2—8 to 10 inches; extremely gravelly loam
Bkqm—10 to 60 inches; cemented

Sunrock soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, calcareous, hyperthermic Lithic Torriorthents
Parent material: Colluvium derived from basalt
Slope: 3 to 15 percent
Surface fragments: About 70 percent coarse gravel, about 10 percent cobbles
Depth to restrictive feature: 4 to 10 inches to bedrock (lithic)
Drainage class: Somewhat excessively drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 0.3
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-1AZ; Lower Mojave Desert
Ecological site name: Basalt Upland 3-6" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XA124AZ
Present native vegetation: creosotebush, white bursage
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; extremely gravelly sandy loam
Bw—2 to 5 inches; very gravelly sandy loam
2R—5 inches; unweathered bedrock

155—Urban land-Calvista family complex, 2 to 10 percent slopes

Map Unit Setting

Landform: hills and mountains
Elevation: 3,000 to 3,600 feet (914 to 1,097 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)

Mean annual air temperature: 62 to 68 degrees F (17 to 20 degrees C)
Mean annual soil temperature: 64 to 70 degrees F (19 to 22 degrees C)
Frost-free period: 180 to 265 days

Map Unit Composition

Urban land: 60 percent
Calvista family and similar soils: 25 percent
Minor components: 15 percent

Properties and Qualities

Urban land

Land mostly covered by streets, parking lots, buildings, and other structures of urban areas.

Calvista family soils

Taxonomic classification: Loamy, mixed, superactive, thermic Lithic Haplocalcids
Parent material: Alluvium derived from volcanic rock
Slope: 2 to 10 percent
Surface fragments: About 45 percent coarse gravel
Depth to restrictive feature: 4 to 20 inches to bedrock (lithic)
Drainage class: Well drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 0.7
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Volcanic Hills 10-13" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC332AZ
Present native vegetation: flattop buckwheat, big galleta, California juniper, blackbrush
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; very gravelly loam
Bk—2 to 10 inches; cobbly loam
2R—10 inches; unweathered bedrock

156—Ustorthents-Rock outcrop complex, 35 to 90 percent slopes

Map Unit Setting

Landform: plateaus
Elevation: 6,000 to 6,800 feet (1,829 to 2,073 meters)
Mean annual precipitation: 14 to 18 inches (356 to 457 millimeters)
Mean annual air temperature: 49 to 52 degrees F (9 to 11 degrees C)
Mean annual soil temperature: 51 to 54 degrees F (11 to 13 degrees C)
Frost-free period: 120 to 160 days

Map Unit Composition

Ustorthents and similar soils: 60 percent
Rock outcrop: 30 percent
Minor components: 10 percent

Properties and Qualities

Ustorthents soils

Taxonomic classification: Ustorthents
Parent material: Alluvium and colluvium derived from mixed rock sources
Slope: 35 to 90 percent
Depth to restrictive feature: Greater than 60 inches to bedrock
Drainage class: Well drained
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 35; Colorado Plateau
Land Resource Unit: 35-6AZ; Colorado Plateau Pinyon-Juniper Woodland and Shrubland
Ecological site name: Sedimentary Cliffs 13-17" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R035XF601AZ
Present native vegetation: desert needlegrass, sideoats grama, Colorado pinyon, Utah juniper, black grama
Land capability (nonirrigated): 6c

Typical Profile

Soils in this landscape position are highly variable with respect to depth, texture, color, and/or chemical properties. Therefore, physical and chemical properties of specific horizons are not given, and interpretations such as erodibility are not determined. The taxonomic unit description is representative of what may be found in this landscape position.

Rock outcrop

Exposures of bedrock, typically barren but may have sparse vegetation growing in cracks and crevices or in thin layers of alluvium or colluvium.

157—Valena-Carri complex, 3 to 15 percent slopes

Map Unit Setting

Landform: plateaus
Elevation: 4,800 to 5,200 feet (1,463 to 1,585 meters)
Mean annual precipitation: 14 to 18 inches (356 to 457 millimeters)
Mean annual air temperature: 52 to 55 degrees F (11 to 13 degrees C)
Mean annual soil temperature: 54 to 57 degrees F (13 to 15 degrees C)
Frost-free period: 150 to 165 days

Map Unit Composition

Valena and similar soils: 70 percent
Carri and similar soils: 20 percent
Minor components: 10 percent

Properties and Qualities

Valena soils

Taxonomic classification: Loamy, mixed, superactive, mesic Lithic Haplustalfs
Parent material: Alluvium derived from granite
Slope: 3 to 15 percent
Surface fragments: About 5 percent coarse gravel
Depth to restrictive feature: 10 to 20 inches to bedrock (lithic)
Drainage class: Well drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 1.7
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 38; Mogollon Transition
Land Resource Unit: 38-1AZ; Mogollon Transition Interior Chaparral, Grassland, and Pinyon-Juniper Savannah
Ecological site name: Granitic Upland 12-16" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R038XA119AZ
Present native vegetation: turbinella oak, Utah juniper, desert ceanothus, pointleaf manzanita, black grama, broom snakeweed
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 2 inches; sandy loam
Bw—2 to 7 inches; sandy loam
2Bt—7 to 12 inches; sandy clay loam
2R—12 inches; unweathered bedrock

Carri soils

Taxonomic classification: Fine-loamy, mixed, superactive, mesic Aridic Haplustalfs
Parent material: Alluvium derived from granite
Slope: 3 to 15 percent
Surface fragments: About 5 percent coarse gravel
Depth to restrictive feature: 20 to 40 inches to bedrock (lithic)
Drainage class: Well drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 3.9
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: B
Major Land Resource Area: 38; Mogollon Transition
Land Resource Unit: 38-1AZ; Mogollon Transition Interior Chaparral, Grassland, and Pinyon-Juniper Savannah
Ecological site name: Granitic Upland 12-16" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R038XA119AZ
Present native vegetation: turbinella oak, Utah juniper, desert ceanothus, pointleaf manzanita, black grama, broom snakeweed
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 2 inches; sandy loam
Bt1—2 to 9 inches; loam
Bt2—9 to 21 inches; sandy clay loam

2Bt3—21 to 27 inches; sandy clay loam
2R—27 inches; unweathered bedrock

158—Valena-Rock outcrop-Carri family complex, 1 to 25 percent slopes

Map Unit Setting

Landform: plateaus
Elevation: 5,000 to 5,200 feet (1,524 to 1,585 meters)
Mean annual precipitation: 14 to 18 inches (356 to 457 millimeters)
Mean annual air temperature: 48 to 52 degrees F (9 to 11 degrees C)
Mean annual soil temperature: 50 to 54 degrees F (11 to 13 degrees C)
Frost-free period: 135 to 150 days

Map Unit Composition

Valena and similar soils: 40 percent
Rock outcrop: 20 percent
Carri family and similar soils: 15 percent
Minor components: 25 percent

Properties and Qualities

Valena soils

Taxonomic classification: Loamy, mixed, superactive, mesic Lithic Haplustalfs
Parent material: Alluvium derived from igneous and metamorphic rock
Slope: 1 to 25 percent
Surface fragments: About 10 percent coarse gravel
Depth to restrictive feature: 10 to 20 inches to bedrock (lithic)
Drainage class: Well drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 1.7
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 38; Mogollon Transition
Land Resource Unit: 38-1AZ; Mogollon Transition Interior Chaparral, Grassland, and Pinyon-Juniper Savannah
Ecological site name: Granitic Upland 12-16" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R038XA119AZ
Present native vegetation: turbinella oak, Utah juniper, desert ceanothus, pointleaf manzanita, black grama, broom snakeweed
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 2 inches; sandy loam
Bw—2 to 7 inches; sandy loam
2Bt—7 to 12 inches; sandy clay loam
2R—12 inches; unweathered bedrock

Rock outcrop

Exposures of bedrock, typically barren but may have sparse vegetation growing in cracks and crevices or in thin layers of alluvium or colluvium.

Carri family soils

Taxonomic classification: Fine-loamy, mixed, superactive, mesic Aridic Haplustalfs
Parent material: Alluvium derived from granite over residuum weathered from granite
Slope: 1 to 25 percent
Surface fragments: About 5 percent coarse gravel
Drainage class: Well drained
Permeability: From 0.2 to 0.6 in/hr (moderately slow)
Available water capacity total inches: 8.4
Shrink-swell potential: About 4.5 LEP (moderate)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: High
Hydrologic group: B
Major Land Resource Area: 38; Mogollon Transition
Land Resource Unit: 38-1AZ; Mogollon Transition Interior Chaparral, Grassland, and Pinyon-Juniper Savannah
Ecological site name: Sandy Loam Upland 12-16" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R038XA113AZ
Present native vegetation: pointleaf manzanita
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 2 inches; sandy loam
Bt—2 to 34 inches; sandy clay loam
BC—34 to 44 inches; gravelly coarse sandy loam
2Btb—44 to 60 inches; loam

159—Vekol family gravelly loamy sand, 2 to 7 percent slopes

Map Unit Setting

Landform: fan terraces

Elevation: 2,000 to 3,200 feet (610 to 975 meters)
Mean annual precipitation: 12 to 16 inches (305 to 406 millimeters)
Mean annual air temperature: 59 to 70 degrees F (15 to 21 degrees C)
Mean annual soil temperature: 61 to 72 degrees F (17 to 23 degrees C)
Frost-free period: 200 to 250 days

Map Unit Composition

Vekol family and similar soils: 85 percent
Minor components: 15 percent

Properties and Qualities

Vekol family soils

Taxonomic classification: Fine, mixed, superactive, thermic Typic Haplargids
Parent material: Alluvium derived from mixed rock sources
Slope: 2 to 7 percent
Drainage class: Well drained
Permeability: From 0.06 to 0.2 in/hr (slow)
Available water capacity total inches: 5.2
Shrink-swell potential: About 4.5 LEP (moderate)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Sandy Loam Upland 10-13" p.z. Fine
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC321AZ
Present native vegetation: big galleta, Opuntia, burrograss, black grama, rayless goldenhead
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 4 inches; gravelly loamy sand
BA—4 to 10 inches; gravelly sandy loam
Bt1—10 to 26 inches; gravelly sandy clay
Bt2—26 to 40 inches; gravelly sandy clay loam
Bkn—40 to 60 inches; very gravelly sand

160—Vekol family loam, 1 to 3 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 2,200 to 5,000 feet (671 to 1,524 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 62 to 68 degrees F (17 to 20 degrees C)
Mean annual soil temperature: 64 to 70 degrees F (19 to 22 degrees C)
Frost-free period: 180 to 275 days

Map Unit Composition

Vekol family and similar soils: 80 percent
Minor components: 20 percent

Properties and Qualities

Vekol family soils

Taxonomic classification: Fine, mixed, superactive, thermic Typic Haplargids
Parent material: Alluvium derived from mixed volcanic rock
Slope: 1 to 3 percent
Surface fragments: About 10 percent coarse gravel
Drainage class: Well drained
Permeability: From 0.06 to 0.2 in/hr (slow)
Available water capacity total inches: 9.2
Shrink-swell potential: About 10.0 LEP (very high)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: High
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Clayey Upland 10-13" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC304AZ
Present native vegetation: big galleta, banana yucca, tobosa, white burrobrush
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 3 inches; loam
Bt—3 to 21 inches; clay
Btk1—21 to 45 inches; clay
Btk2—45 to 57 inches; sandy clay loam
2Ck—57 to 60 inches; loam

161—Vekol family-Whitehills complex, 2 to 7 percent slopes

Map Unit Setting

Landform: fan terraces

Elevation: 2,000 to 4,800 feet (610 to 1,463 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 62 to 68 degrees F (17 to 20 degrees C)
Mean annual soil temperature: 64 to 70 degrees F (19 to 22 degrees C)
Frost-free period: 180 to 265 days

Map Unit Composition

Vekol family and similar soils: 50 percent
Whitehills and similar soils: 35 percent
Minor components: 15 percent

Properties and Qualities

Vekol family soils

Taxonomic classification: Fine, mixed, superactive, thermic Typic Haplargids
Parent material: Alluvium derived from mixed volcanic rock
Slope: 2 to 7 percent
Surface fragments: About 10 percent coarse gravel
Drainage class: Well drained
Permeability: From 0.06 to 0.2 in/hr (slow)
Available water capacity total inches: 7.3
Shrink-swell potential: About 10.0 LEP (very high)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mojave Desert
Ecological site name: Clay Loam Upland 6-10" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB227AZ
Present native vegetation: creosotebush, white bursage
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; very cobbly clay loam
Bt—2 to 39 inches; clay
2Bt—39 to 60 inches; very gravelly clay

Whitehills soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, thermic Typic Argidurids
Parent material: Alluvium derived from mixed volcanic rock
Slope: 2 to 7 percent
Depth to restrictive feature: 20 to 40 inches to duripan
Drainage class: Well drained
Permeability: From 0.2 to 0.6 in/hr (moderately slow)
Available water capacity total inches: 2.7
Shrink-swell potential: About 4.5 LEP (moderate)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: C
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mojave Desert
Ecological site name: Limy Upland 6-10" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB214AZ
Present native vegetation: creosotebush, white bursage, big galleta
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; very gravelly loam
Btk1—2 to 7 inches; very gravelly loam
Btk2—7 to 19 inches; very gravelly clay loam
Bk—19 to 27 inches; very gravelly loam
2Bkqm—27 to 27 inches; indurated

162—Vock-Elements-Rock outcrop complex, 30 to 65 percent slopes

Map Unit Setting

Landform: hills and mountains
Elevation: 5,000 to 6,800 feet (1,524 to 2,073 meters)
Mean annual precipitation: 12 to 16 inches (305 to 406 millimeters)
Mean annual air temperature: 52 to 55 degrees F (11 to 13 degrees C)
Mean annual soil temperature: 54 to 57 degrees F (13 to 15 degrees C)
Frost-free period: 150 to 165 days

Map Unit Composition

Vock and similar soils: 60 percent
Elements and similar soils: 20 percent
Rock outcrop: 10 percent
Minor components: 10 percent

Properties and Qualities

Vock soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, mesic, shallow Ustic Haplocambids
Parent material: Alluvium and colluvium derived from mixed rock sources

Slope: 30 to 65 percent
Surface fragments: About 20 percent coarse gravel, about 20 percent cobbles, about 10 percent stones
Depth to restrictive feature: 10 to 20 inches to bedrock (paralithic)
Drainage class: Somewhat excessively drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 1.2
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Granitic/Schist Hills 10-13" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC355AZ
Present native vegetation: desert ceanothus, turbinella oak, Colorado pinyon, Opuntia, banana yucca, singleleaf pinyon, desert needlegrass
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 6 inches; very cobbly sandy loam
Bw1—6 to 11 inches; gravelly sandy loam
Bw2—11 to 16 inches; very gravelly sandy loam
2Cr—16 to 16 inches; weathered bedrock

Elements soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, mesic Ustic Haplargids
Parent material: Alluvium and colluvium derived from mixed rock sources
Slope: 30 to 65 percent
Surface fragments: About 40 percent cobbles, about 40 percent coarse gravel
Drainage class: Well drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 4.8
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: High
Hydrologic group: B
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Sandy Loam Slopes 10-13" p.z. Fine, Skeletal
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC353AZ
Present native vegetation: black grama, flattop buckwheat, turbinella oak, Mexican bladdersage, banana yucca
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 5 inches; very stony sandy loam
Bw—5 to 11 inches; very cobbly sandy loam
Bt1—11 to 52 inches; very cobbly loam
Bt2—52 to 60 inches; extremely cobbly sandy loam

Rock outcrop

Exposures of bedrock, typically barren but may have sparse vegetation growing in cracks and crevices or in thin layers of alluvium or colluvium.

163—Vock-Elements-Rock outcrop complex, cool, 30 to 65 percent slopes

Map Unit Setting

Landform: hills and mountains
Elevation: 5,000 to 6,800 feet (1,524 to 2,073 meters)
Mean annual precipitation: 12 to 16 inches (305 to 406 millimeters)
Mean annual air temperature: 52 to 55 degrees F (11 to 13 degrees C)
Mean annual soil temperature: 54 to 57 degrees F (13 to 15 degrees C)
Frost-free period: 150 to 165 days

Map Unit Composition

Vock and similar soils: 45 percent
Elements and similar soils: 40 percent
Rock outcrop: 10 percent
Minor components: 5 percent

Properties and Qualities

Vock soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, mesic, shallow Ustic Haplocambids
Parent material: Alluvium and colluvium derived from mixed rock sources
Slope: 30 to 65 percent
Surface fragments: About 20 percent coarse gravel, about 20 percent cobbles, about 10 percent stones
Depth to restrictive feature: 10 to 20 inches to bedrock (paralithic)
Drainage class: Somewhat excessively drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 0.7

Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Pinus monophylla/Quercus turbinella-Ceanothus greggii/Poa fendleriana-Achnatherum speciosum
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: F030XC375AZ
Present native vegetation: singleleaf pinyon, turbinella oak
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 1 inch; very cobbly sandy loam
Bw—1 to 6 inches; very cobbly sandy loam
BC—6 to 10 inches; very gravelly sandy loam
2Cr—10 to 60 inches; weathered bedrock

Elements soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, mesic Ustic Haplargids
Parent material: Alluvium and colluvium derived from mixed
Slope: 30 to 65 percent
Surface fragments: About 40 percent cobbles, about 40 percent coarse gravel
Drainage class: Well drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 4.8
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: High
Hydrologic group: B
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Pinus monophylla/Quercus turbinella-Ceanothus greggii/Poa fendleriana-Achnatherum speciosum
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: F030XC375AZ
Present native vegetation: singleleaf pinyon, turbinella oak
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 5 inches; very stony sandy loam
Bw—5 to 11 inches; very cobbly sandy loam
Bt1—11 to 52 inches; very cobbly loam
Bt2—52 to 60 inches; extremely cobbly sandy loam

Rock outcrop

Exposures of bedrock, typically barren but may have sparse vegetation growing in cracks and crevices or in thin layers of alluvium or colluvium.

164—Water

Includes streams, rivers, lakes and ponds. These areas are covered with water in most years, at least during the period that is warm enough for plants to grow. Many areas are covered throughout the year.

165—White House gravelly loamy sand, 2 to 15 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 4,200 to 4,800 feet (1,280 to 1,463 meters)
Mean annual precipitation: 12 to 16 inches (305 to 406 millimeters)
Mean annual air temperature: 57 to 61 degrees F (14 to 16 degrees C)
Mean annual soil temperature: 59 to 63 degrees F (16 to 18 degrees C)
Frost-free period: 180 to 210 days

Map Unit Composition

White House and similar soils: 85 percent
Minor components: 15 percent

Properties and Qualities

White House soils

Taxonomic classification: Fine, mixed, superactive, thermic Ustic Haplargids
Parent material: Alluvium derived from mixed rock sources
Slope: 2 to 15 percent
Surface fragments: About 2 percent cobbles, about 30 percent coarse gravel
Drainage class: Well drained
Permeability: From 0.06 to 0.2 in/hr (slow)

Available water capacity total inches: 6.7
Shrink-swell potential: About 7.5 LEP (high)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: C
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Sandy Loam Upland 10-13" p.z. Fine
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC321AZ
Present native vegetation: big galleta, Opuntia, burrograss, black grama, rayless goldenhead
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 1 inch; gravelly loamy sand
BA—1 to 5 inches; sandy clay loam
2Bt—5 to 23 inches; sandy clay
2Btk—23 to 42 inches; gravelly sandy clay loam
2Bk—42 to 60 inches; gravelly loamy sand

166—White House family very gravelly loamy sand, 2 to 15 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 4,200 to 4,800 feet (1,280 to 1,463 meters)
Mean annual precipitation: 12 to 16 inches (305 to 406 millimeters)
Mean annual air temperature: 57 to 61 degrees F (14 to 16 degrees C)
Mean annual soil temperature: 59 to 63 degrees F (16 to 18 degrees C)
Frost-free period: 180 to 210 days

Map Unit Composition

White House family and similar soils: 85 percent
Minor components: 15 percent

Properties and Qualities

White House family soils

Taxonomic classification: Fine, mixed, superactive, thermic Ustic Haplargids
Parent material: Alluvium derived from mixed rock sources
Slope: 2 to 15 percent
Surface fragments: About 40 percent coarse gravel
Drainage class: Well drained
Permeability: From 0.001 to 0.06 in/hr (very slow)
Available water capacity total inches: 5.1
Shrink-swell potential: About 10.0 LEP (very high)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: C
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Sandy Loam Upland 10-13" p.z. Fine, Gravelly
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC315AZ
Present native vegetation: big galleta, Aristida, Utah juniper, banana yucca, black grama
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 1 inch; very gravelly loamy sand
Bt1—1 to 15 inches; very gravelly sandy clay loam
Bt2—15 to 21 inches; gravelly clay
Bt3—21 to 32 inches; clay
BC—32 to 43 inches; gravelly sandy clay loam
C—43 to 60 inches; gravelly loamy sand

167—Whitehills very gravelly loam, 1 to 5 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 2,200 to 3,800 feet (671 to 1,158 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 62 to 68 degrees F (17 to 20 degrees C)
Mean annual soil temperature: 64 to 70 degrees F (19 to 22 degrees C)
Frost-free period: 190 to 250 days

Map Unit Composition

Whitehills and similar soils: 80 percent
Minor components: 20 percent

Properties and Qualities

Whitehills soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, thermic Typic Argidurids
Parent material: Alluvium derived from mixed volcanic rock
Slope: 1 to 5 percent

Depth to restrictive feature: 20 to 40 inches to duripan
Drainage class: Well drained
Permeability: From 0.2 to 0.6 in/hr (moderately slow)
Available water capacity total inches: 2.7
Shrink-swell potential: About 4.5 LEP (moderate)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: C
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mojave Desert
Ecological site name: Limy Upland 6-10" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB214AZ
Present native vegetation: creosotebush, white bursage, big galleta
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; very gravelly loam
Btk1—2 to 7 inches; very gravelly loam
Btk2—7 to 19 inches; very gravelly clay loam
Bk—19 to 27 inches; very gravelly loam
2Bkqm—27 to 27 inches; indurated

168—Wodomont-Kydestea complex, 5 to 40 percent slopes

Map Unit Setting

Landform: hills
Elevation: 5,000 to 5,600 feet (1,524 to 1,707 meters)
Mean annual precipitation: 14 to 18 inches (356 to 457 millimeters)
Mean annual air temperature: 48 to 52 degrees F (9 to 11 degrees C)
Mean annual soil temperature: 50 to 54 degrees F (11 to 13 degrees C)
Frost-free period: 135 to 150 days

Map Unit Composition

Wodomont and similar soils: 50 percent
Kydestea and similar soils: 25 percent
Minor components: 25 percent

Properties and Qualities

Wodomont soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, mesic Lithic Calciustepts
Parent material: Colluvium derived from limestone
Slope: 5 to 40 percent
Surface fragments: About 30 percent coarse gravel, about 30 percent cobbles, about 5 percent stones
Depth to restrictive feature: 10 to 20 inches to bedrock (lithic)
Drainage class: Well drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 0.7
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: B
Major Land Resource Area: 35; Colorado Plateaus
Land Resource Unit: 35-7AZ; Mogollon Plateaus Pinyon-Juniper Woodland and Grassland
Ecological site name: Pinus edulis-Juniperus osteosperma/Purshia stansburiana-Yucca baccata/Bouteloua curtipendula-Bouteloua gracilis
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: F035XG714AZ
Present native vegetation: Utah juniper, singleleaf pinyon, Colorado pinyon, Stansbury cliffrose, broom snakeweed
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 2 inches; extremely cobbly sandy loam
Bw—2 to 8 inches; extremely gravelly sandy loam
Bk—8 to 18 inches; extremely gravelly sandy loam
2R—18 inches; unweathered bedrock

Kydestea soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, calcareous, mesic Aridic Lithic Ustorthents
Parent material: Alluvium derived from limestone
Slope: 5 to 40 percent
Surface fragments: About 55 percent coarse gravel, about 10 percent cobbles
Depth to restrictive feature: 4 to 20 inches to bedrock (lithic)
Drainage class: Well drained
Permeability: From 0.2 to 0.6 in/hr (moderately slow)
Available water capacity total inches: 0.9
Shrink-swell potential: About 4.0 LEP (moderate)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 35; Colorado Plateaus

Land Resource Unit: 35-7AZ; Mogollon Plateaus Pinyon-Juniper Woodland and Grassland
Ecological site name: Pinus edulis-Juniperus osteosperma/Purshia stansburiana-Yucca baccata/Bouteloua curtipendula-Bouteloua gracilis
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: F035XG714AZ
Present native vegetation: Utah juniper, singleleaf pinyon, Colorado pinyon, Stansbury cliffrose, broom snakeweed
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 2 inches; extremely gravelly loam
Bw—2 to 4 inches; extremely cobbly loam
Ck1—4 to 10 inches; extremely cobbly silty clay loam
Ck2—10 to 15 inches; extremely cobbly silty clay loam
2R—15 inches; unweathered bedrock

169—Wodomont-Metuck-Rock outcrop complex, 25 to 45 percent slopes

Map Unit Setting

Landform: plateaus
Elevation: 4,700 to 5,700 feet (1,433 to 1,737 meters)
Mean annual precipitation: 14 to 18 inches (356 to 457 millimeters)
Mean annual air temperature: 48 to 52 degrees F (9 to 11 degrees C)
Mean annual soil temperature: 50 to 54 degrees F (11 to 13 degrees C)
Frost-free period: 135 to 150 days

Map Unit Composition

Wodomont and similar soils: 45 percent
Metuck and similar soils: 30 percent
Rock outcrop: 15 percent
Minor components: 10 percent

Properties and Qualities

Wodomont soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, mesic Lithic Calciustepts
Parent material: Colluvium derived from limestone
Slope: 25 to 45 percent
Surface fragments: About 30 percent coarse gravel, about 30 percent cobbles, about 5 percent stones
Depth to restrictive feature: 6 to 20 inches to bedrock (lithic)
Drainage class: Well drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 0.7
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: B
Major Land Resource Area: 35; Colorado Plateaus
Land Resource Unit: 35-7AZ; Mogollon Plateaus Pinyon-Juniper Woodland and Grassland
Ecological site name: Juniperus osteosperma-Pinus/Purshia stansburiana-Gutierrezia sarothrae/Bouteloua curtipendula-Bouteloua gracilis
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: F035XG712AZ
Present native vegetation: Utah juniper, Colorado pinyon, singleleaf pinyon, Stansbury cliffrose, broom snakeweed, sideoats grama
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 2 inches; extremely cobbly sandy loam
Bw—2 to 8 inches; extremely gravelly sandy loam
Bk—8 to 18 inches; extremely gravelly sandy loam
2R—18 inches; unweathered bedrock

Metuck soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, calcareous, mesic Aridic Lithic Ustorthents
Parent material: Alluvium and colluvium derived from limestone
Slope: 25 to 45 percent
Surface fragments: About 30 percent coarse gravel, about 30 percent cobbles, about 5 percent stones
Depth to restrictive feature: 4 to 17 inches to bedrock (lithic)
Drainage class: Well drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 0.5
Shrink-swell potential: About 1.0 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 35; Colorado Plateaus

Land Resource Unit: 35-7AZ; Mogollon Plateaus Pinyon-Juniper Woodland and Grassland
Ecological site name: Juniperus osteosperma-Pinus/Purshia stansburiana-Gutierrezia sarothrae/Bouteloua curtipendula-Bouteloua gracilis
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: F035XG712AZ
Present native vegetation: Utah juniper, Colorado pinyon, singleleaf pinyon, Stansbury cliffrose, broom snakeweed, sideoats grama
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 2 inches; extremely cobbly sandy loam
Bw—2 to 6 inches; very gravelly sandy loam
2R—6 inches; unweathered bedrock

Rock outcrop

Exposures of bedrock, typically barren but may have sparse vegetation growing in cracks and crevices or in thin layers of alluvium or colluvium.

170—Wodomont-Rock outcrop complex, 5 to 40 percent slopes

Map Unit Setting

Landform: plateaus
Elevation: 4,600 to 5,400 feet (1,402 to 1,646 meters)
Mean annual precipitation: 14 to 18 inches (356 to 457 millimeters)
Mean annual air temperature: 52 to 55 degrees F (11 to 13 degrees C)
Mean annual soil temperature: 54 to 57 degrees F (13 to 15 degrees C)
Frost-free period: 140 to 160 days

Map Unit Composition

Wodomont and similar soils: 70 percent
Rock outcrop: 20 percent
Minor components: 10 percent

Properties and Qualities

Wodomont soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, mesic Lithic Calciustepts
Parent material: Colluvium derived from limestone
Slope: 5 to 40 percent
Surface fragments: About 35 percent coarse gravel, about 25 percent cobbles
Depth to restrictive feature: 6 to 20 inches to bedrock (lithic)
Drainage class: Well drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 1.2
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 35; Colorado Plateaus
Land Resource Unit: 35-7AZ; Mogollon Plateaus Pinyon-Juniper Woodland and Grassland
Ecological site name: Pinus edulis-Juniperus osteosperma/Purshia stansburiana-Yucca baccata/Bouteloua curtipendula-Bouteloua gracilis
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: F035XG714AZ
Present native vegetation: Utah juniper, singleleaf pinyon, Colorado pinyon, Stansbury cliffrose, broom snakeweed
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 2 inches; very gravelly loam
Bk1—2 to 12 inches; very gravelly loam
Bk2—12 to 15 inches; very gravelly silt loam
2R—15 inches; unweathered bedrock

Rock outcrop

Exposures of bedrock, typically barren but may have sparse vegetation growing in cracks and crevices or in thin layers of alluvium or colluvium.

171—Yahana family silty clay loam, 1 to 3 percent slopes

Map Unit Setting

Landform: flood plains
Elevation: 600 to 1,000 feet (183 to 305 meters)
Mean annual precipitation: 3 to 6 inches (76 to 152 millimeters)
Mean annual air temperature: 70 to 74 degrees F (21 to 23 degrees C)
Mean annual soil temperature: 72 to 76 degrees F (23 to 25 degrees C)
Frost-free period: 250 to 325 days

Map Unit Composition

Yahana family and similar soils: 85 percent
Minor components: 15 percent

Properties and Qualities

Yahana family soils

Taxonomic classification: Fine-silty, mixed, superactive, hyperthermic Typic Haplosalids
Parent material: Alluvium derived from mixed rock sources
Slope: 1 to 3 percent
Drainage class: Well drained
Permeability: From 0.06 to 0.2 in/hr (slow)
Available water capacity total inches: 6.3
Shrink-swell potential: About 7.5 LEP (high)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Medium
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-1AZ; Lower Mojave Desert
Ecological site name: Saline Bottom 3-6" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XA111AZ
Present native vegetation: arrowweed, honey mesquite
Land capability (nonirrigated): 7c

Typical Profile

Anz—0 to 4 inches; silty clay loam
Bnz1—4 to 8 inches; stratified silty clay
Bnz2—8 to 29 inches; silt loam
Bnz3—29 to 41 inches; stratified silty clay
Bnz4—41 to 56 inches; silty clay loam
C—56 to 60 inches; fine sand

172—Zibate family extremely gravelly sandy loam, 5 to 35 percent slopes

Map Unit Setting

Landform: hills
Elevation: 3,500 to 4,500 feet (1,067 to 1,372 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 59 to 64 degrees F (15 to 18 degrees C)
Mean annual soil temperature: 61 to 66 degrees F (17 to 20 degrees C)
Frost-free period: 200 to 230 days

Map Unit Composition

Zibate family and similar soils: 75 percent
Minor components: 25 percent

Properties and Qualities

Zibate family soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, thermic Lithic Haplargids
Parent material: Alluvium derived from mixed rock sources
Slope: 5 to 35 percent
Surface fragments: About 30 percent coarse gravel, about 25 percent cobbles, about 2 percent stones
Depth to restrictive feature: 10 to 20 inches to bedrock (lithic)
Drainage class: Well drained
Permeability: From 0.2 to 0.6 in/hr (moderately slow)
Available water capacity total inches: 1.1
Shrink-swell potential: About 1.0 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Volcanic Hills 10-13" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC332AZ
Present native vegetation: flattop buckwheat, big galleta, California juniper, blackbrush
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; very gravelly loam
Bw—2 to 5 inches; very gravelly clay loam
Bt—5 to 13 inches; extremely gravelly sandy clay loam
2R—13 inches; unweathered bedrock

173—Zibate family very stony loam, 12 to 30 percent slopes

Map Unit Setting

Landform: hills
Elevation: 3,600 to 4,000 feet (1,097 to 1,219 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 59 to 64 degrees F (15 to 18 degrees C)
Mean annual soil temperature: 61 to 66 degrees F (17 to 20 degrees C)
Frost-free period: 200 to 230 days

Map Unit Composition

Zibate family and similar soils: 80 percent
Minor components: 20 percent

Properties and Qualities

Zibate family soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, thermic Lithic Haplargids
Parent material: Alluvium and colluvium derived from rhyolite
Slope: 12 to 30 percent
Surface fragments: About 15 percent coarse gravel, about 15 percent cobbles, about 20 percent stones
Depth to restrictive feature: 10 to 20 inches to bedrock (lithic)
Drainage class: Well drained
Permeability: From 0.2 to 0.6 in/hr (moderately slow)
Available water capacity total inches: 2.1
Shrink-swell potential: About 4.5 LEP (moderate)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Volcanic Hills 10-13" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC332AZ
Present native vegetation: flattop buckwheat, big galleta, California juniper, blackbrush
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; very stony loam
Bt—2 to 17 inches; very stony clay loam
2R—17 inches; unweathered bedrock

174—Zibate family-Dutchflat-Tumarion complex, 4 to 30 percent slopes

Map Unit Setting

Landform: hills
Elevation: 3,400 to 4,000 feet (1,036 to 1,219 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 59 to 64 degrees F (15 to 18 degrees C)
Mean annual soil temperature: 61 to 66 degrees F (17 to 20 degrees C)
Frost-free period: 200 to 230 days

Map Unit Composition

Zibate family and similar soils: 45 percent
Dutchflat and similar soils: 25 percent
Tumarion and similar soils: 15 percent
Minor components: 15 percent

Properties and Qualities

Zibate family soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, thermic Lithic Haplargids
Parent material: Alluvium and colluvium derived from rhyolite
Slope: 12 to 30 percent
Surface fragments: About 5 percent coarse gravel, about 20 percent cobbles, about 25 percent stones
Depth to restrictive feature: 10 to 16 inches to bedrock (lithic)
Drainage class: Well drained
Permeability: From 0.2 to 0.6 in/hr (moderately slow)
Available water capacity total inches: 0.8
Shrink-swell potential: About 7.5 LEP (high)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Volcanic Hills 10-13" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC332AZ
Present native vegetation: flattop buckwheat, big galleta, California juniper, blackbrush
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 1 inch; very cobbly loam
Bt1—1 to 5 inches; very cobbly silty clay loam
Bt2—5 to 10 inches; very cobbly clay
2R—10 inches; unweathered bedrock

Dutchflat soils

Taxonomic classification: Fine-loamy, mixed, superactive, thermic Typic Haplargids
Parent material: Alluvium derived from rhyolite
Slope: 4 to 12 percent
Surface fragments: About 10 percent coarse gravel
Drainage class: Well drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 5.7

Shrink-swell potential: About 1.0 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Medium
Hydrologic group: B
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Sandy Loam Upland 10-13" p.z. Fine
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC321AZ
Present native vegetation: big galleta, Opuntia, burrograss, black grama, rayless goldenhead
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 3 inches; sandy loam
Bw—3 to 7 inches; sandy loam
Bt—7 to 24 inches; gravelly sandy clay loam
Bk1—24 to 39 inches; gravelly sandy loam
Bk2—39 to 60 inches; very gravelly loamy sand

Tumarion soils

Taxonomic classification: Loamy-skeletal, mixed, superactive, thermic, shallow Typic Haplodurids
Parent material: Alluvium derived from rhyolite
Slope: 4 to 20 percent
Surface fragments: About 10 percent coarse gravel, about 60 percent cobbles, about 5 percent stones
Depth to restrictive feature: 5 to 18 inches to duripan; 7 to 20 inches to bedrock (lithic)
Drainage class: Somewhat excessively drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 1.3
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Seasonal water table minimum depth: Greater than 6 feet
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mojave Desert
Ecological site name: Limy Upland 10-13" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC311AZ
Present native vegetation: broom snakeweed, Juniperus, Yucca
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; extremely cobbly sandy loam
Bk—2 to 15 inches; very cobbly sandy loam
Bkqm—15 to 19 inches; indurated
2R—19 inches; unweathered bedrock

Use and Management of the Soils

This soil survey is an inventory and evaluation of the soils in the survey area. It can be used to adjust land uses to the limitations and potentials of natural resources and the environment. Also, it can help to prevent soil-related failures in land uses.

In preparing a soil survey, soil scientists, conservationists, engineers, and others collect extensive field data about the nature and behavioral characteristics of the soils. They collect data on erosion, droughtiness, flooding, and other factors that affect various soil uses and management. Field experience and collected data on soil properties and performance are used as a basis in predicting soil behavior.

Information in this section can be used to plan the use and management of soils as rangeland and forestland; as sites for buildings, sanitary facilities, highways and other transportation systems, and parks and other recreational facilities. It can be used to identify the potentials and limitations of each soil for specific land uses and to help prevent construction failures caused by unfavorable soil properties.

Planners and others using soil survey information can evaluate the effect of specific land uses on productivity and on the environment in all or part of the survey area. The survey can help planners to maintain or create a land use pattern in harmony with the natural soil.

Contractors can use this survey to locate sources of sand and gravel, roadfill, and topsoil. They can use it to identify areas where bedrock, wetness, or very firm soil layers can cause difficulty in excavation.

Health officials, highway officials, engineers, and others may also find this survey useful. The survey can help them plan the safe disposal of wastes and locate sites for pavements, sidewalks, campgrounds, playgrounds, lawns, and trees and shrubs.

Interpretive Ratings

The interpretive tables in this survey rate the soils in the survey area for various uses. Many of the tables identify the limitations that affect specified uses and indicate the severity of those limitations. The ratings in these tables are both verbal and numerical.

Rating Class Terms

Rating classes are expressed in the tables in terms that indicate the extent to which the soils are limited by all of the soil features that affect a specified use or in terms that indicate the suitability of the soils for the use. Thus, the tables may show limitation classes or suitability classes. Terms for the limitation classes are *not limited, somewhat limited,* and *very limited*. The suitability ratings are expressed as *well suited, moderately suited, poorly suited,* and *unsuited* or as *good, fair,* and *poor*.

Numerical Ratings

Numerical ratings in the tables indicate the relative severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.00 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use and the point at which the soil feature is not a limitation. The limitations appear in order from the most limiting to the least limiting. Thus, if more than one limitation is identified, the most severe limitation is listed first and the least severe one is listed last.

Rangeland and Woodland Understory Productivity and Characteristic Plant Communities

In areas that have similar climate and topography, differences in the kind and amount of rangeland or forest understory vegetation are closely related to the kind of soil. Effective management is based on the relationship between the soils and vegetation and water.

Table 2 shows, for each soil that supports vegetation suitable for grazing, the ecological site; the total annual production of vegetation in favorable, normal, and unfavorable years; the characteristic vegetation; and the average percentage of some of the major species. Production, characteristic vegetation, and composition data are not available for some soils. An explanation of the column headings in table 2 follows.

An *ecological site* is the product of all the

environmental factors responsible for its development. It has characteristic soils that have developed over time throughout the soil development process; a characteristic hydrology, particularly infiltration and runoff, that has developed over time; and a characteristic plant community (kind and amount of vegetation). The hydrology of the site is influenced by development of the soil and plant community. The vegetation, soils, and hydrology are all interrelated. Each is influenced by the others and influences the development of the others. The plant community on an ecological site is typified by an association of species that differs from that of other ecological sites in the kind and/or proportion of species or in total production. Descriptions of ecological sites are provided in the Field Office Technical Guide, which is available in local offices of the Natural Resources Conservation Service.

Total dry-weight production is the amount of vegetation that can be expected to grow annually in a well managed area that is supporting the potential natural plant community. It includes all vegetation, whether or not it is palatable to grazing animals. It includes the current year's growth of leaves, twigs, and fruits of woody plants. It does not include the increase in stem diameter of trees and shrubs. It is expressed in pounds per acre of air-dry vegetation for favorable, normal, and unfavorable years. In a favorable year, the amount and distribution of precipitation and the temperatures make growing conditions substantially better than average. In a normal year, growing conditions are about average. In an unfavorable year, growing conditions are well below average, generally because of low available soil moisture. Yields are adjusted to a common percent of air-dry moisture content.

Characteristic vegetation—the grasses, forbs, and shrubs that make up most of the potential natural plant community on each soil is listed by common name. Under *rangeland composition*, the expected percentage of the total annual production is given for each species making up the characteristic vegetation. The amount that can be used as forage depends on the kinds of grazing animals and on the grazing season.

Range management requires a knowledge of the kinds of soil and of the potential natural plant community. It also requires an evaluation of the present range similarity index and rangeland trend. Range similarity index is determined by comparing the present plant community with the potential natural plant community on a particular rangeland ecological site. The more closely the existing community resembles the potential community, the higher the range similarity index. Rangeland trend is defined as the direction of change in an existing plant community relative to the potential natural plant community. Further information about the range similarity index and rangeland trend is available in chapter 4 of the "National Range and Pasture Handbook" (http://www.glti.nrcs.usda.gov/technical/publications/nrph.html (verified 6/05).

The objective in range management is to control grazing so that the plants growing on a site are about the same in kind and amount as the potential natural plant community for that site. Such management generally results in the optimum production of vegetation, control of undesirable brush species, conservation of water, and control of erosion. Sometimes, however, an area with a range similarity index somewhat below the potential meets grazing needs, provides wildlife habitat, and protects soil and water resources.

Forestland Productivity

Table 3 can help forest owners or managers plan the use of soils for wood crops. It shows the potential productivity of the soils for wood crops.

In table 3, the *potential productivity* of merchantable or *common trees* on a soil is expressed as a site index and as a volume number. The *site index* is the average height, in feet, that dominant and codominant trees of a given species attain in a specified number of years. The site index applies to fully stocked, even-aged, unmanaged stands. Commonly grown trees are those that forest managers generally favor in intermediate or improvement cuttings. They are selected on the basis of growth rate, quality, value, and marketability. More detailed information regarding site index is available in the "National Forestry Manual," which is available in local offices of the Natural Resources Conservation Service or on the Internet at http://soils.usda.gov/technical/nfmanual/ (verified 6/05).

The *volume of wood fiber*, a number, is the yield likely to be produced by the most important tree species. This number, expressed as cubic feet per acre per year and calculated at the age of culmination of the mean annual increment (CMAI), indicates the amount of fiber produced in a fully stocked, even-aged, unmanaged stand.

Trees to manage are those that are preferred for planting, seeding, or natural regeneration and those that remain in the stand after thinning or partial harvest.

Recreation

The soils of the survey area are rated in tables 4 and 5 according to limitations that affect their suitability for recreation. The ratings are both verbal

and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the recreational uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

The ratings in the tables are based on restrictive soil features, such as wetness, slope, and texture of the surface layer. Susceptibility to flooding is considered. Not considered in the ratings, but important in evaluating a site, are the location and accessibility of the area, the size and shape of the area and its scenic quality, vegetation, access to water, potential water impoundment sites, and access to public sewer lines. The capacity of the soil to absorb septic tank effluent and the ability of the soil to support vegetation also are important. Soils that are subject to flooding are limited for recreational uses by the duration and intensity of flooding and the season when flooding occurs. In planning recreational facilities, onsite assessment of the height, duration, intensity, and frequency of flooding is essential.

The information in tables 4 and 5 can be supplemented by other information in this survey, for example, interpretations for building site development, construction materials, sanitary facilities, and water management.

In table 4, *camp areas* require site preparation, such as shaping and leveling the tent and parking areas, stabilizing roads and intensively used areas, and installing sanitary facilities and utility lines. Camp areas are subject to heavy foot traffic and some vehicular traffic. The ratings are based on the soil properties that affect the ease of developing camp areas and the performance of the areas after development. Slope, stoniness, and depth to bedrock or a cemented pan are the main concerns affecting the development of camp areas. The soil properties that affect the performance of the areas after development are those that influence trafficability and promote the growth of vegetation, especially in heavily used areas. For good trafficability, the surface of camp areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Picnic areas are subject to heavy foot traffic. Most vehicular traffic is confined to access roads and parking areas. The ratings are based on the soil properties that affect the ease of developing picnic areas and that influence trafficability and the growth of vegetation after development. Slope and stoniness are the main concerns affecting the development of picnic areas. For good trafficability, the surface of picnic areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

P*laygrounds* require soils that are nearly level, are free of stones, and can withstand intensive foot traffic. The ratings are based on the soil properties that affect the ease of developing playgrounds and that influence trafficability and the growth of vegetation after development. Slope and stoniness are the main concerns affecting the development of playgrounds. For good trafficability, the surface of the playgrounds should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

In table 5*, paths and trails* for hiking and horseback riding should require little or no slope modification through cutting and filling. The ratings are based on the soil properties that affect trafficability and erodibility.

These properties are stoniness, depth to a water table, ponding, flooding, slope, and texture of the surface layer.

Off-road motorcycle trails require little or no site preparation. They are not covered with surfacing material or vegetation. Considerable compaction of the soil material is likely. The ratings are based on the soil properties that influence erodibility, trafficability, dustiness, and the ease of revegetation. These properties are stoniness, slope, depth to a water table, ponding, flooding, and texture of the surface layer.

Golf fairways are subject to heavy foot traffic and some light vehicular traffic. Cutting or filling may be required. Irrigation is not considered in the ratings. The ratings are based on the soil properties that affect plant growth and trafficability after vegetation is established. The properties that affect plant growth are reaction; depth to a water table; ponding; depth to bedrock or a cemented pan; the available water capacity in the upper 40 inches; the content of salts, sodium, or calcium carbonate; and sulfidic materials. The properties that affect trafficability are flooding, depth to a water table, ponding, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer. The suitability of the soil for traps, tees, roughs, and greens is not considered in the ratings.

Engineering

This section provides information for planning land uses related to urban development and to water management. Soils are rated for various uses, and the most limiting features are identified. Ratings are given for building site development, sanitary facilities, construction materials, and water management. The ratings are based on observed performance of the soils and on the data in the tables described under the heading "Soil Properties."

Information in this section is intended for land use planning, for evaluating land use alternatives, and for planning site investigations prior to design and construction. The information, however, has limitations. For example, estimates and other data generally apply only to that part of the soil between the surface and a depth of 5 to 7 feet. Because of the map scale, small areas of different soils may be included within the mapped areas of a specific soil.

The information is not site specific and does not eliminate the need for onsite investigation of the soils or for testing and analysis by personnel experienced in the design and construction of engineering works.

Government ordinances and regulations that restrict certain land uses or impose specific design criteria were not considered in preparing the information in this section. Local ordinances and regulations should be considered in planning, in site selection, and in design.

Soil properties, site features, and observed performance were considered in determining the ratings in this section. During the fieldwork for this soil survey, determinations were made about particle-size distribution, liquid limit, plasticity index, soil reaction, depth to bedrock, hardness of bedrock within 5 to 7 feet of the surface, soil wetness, depth to a water table, ponding, slope, likelihood of flooding, natural soil structure aggregation, and soil density. Data were collected about kinds of clay minerals, mineralogy of the sand and silt fractions, and the kinds of adsorbed cations. Estimates were made for erodibility, permeability, corrosivity, shrink-swell potential, available water capacity, and other behavioral characteristics affecting engineering uses.

This information can be used to evaluate the potential of areas for residential, commercial, industrial, and recreational uses; make preliminary estimates of construction conditions; evaluate alternative routes for roads, streets, highways, pipelines, and underground cables; evaluate alternative sites for sanitary landfills, septic tank absorption fields, and sewage lagoons; plan detailed onsite investigations of soils and geology; locate potential sources of gravel, sand, earthfill, and topsoil; plan drainage systems, ponds, terraces, and other structures for soil and water conservation; and predict performance of proposed small structures and pavements by comparing the performance of existing similar structures on the same or similar soils.

The information in the tables, along with the soil maps, the soil descriptions, and other data provided in this survey, can be used to make additional interpretations.

Some of the terms used in this soil survey have a special meaning in soil science and are defined in the Glossary.

Building Site Development

Soil properties influence the development of building sites, including the selection of the site, the design of the structure, construction, performance after construction, and maintenance. Tables 6 and 7 show the degree and kind of soil limitations that affect dwellings with and without basements, small commercial buildings, local roads and streets, shallow excavations, and lawns and landscaping.

The ratings in the tables are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features

that affect building site development. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

In table 6, *dwellings* are single-family houses of three stories or less. For dwellings without basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. For dwellings with basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of about 7 feet. The ratings for dwellings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility. Compressibility is inferred from the Unified classification. The properties that affect the ease and amount of excavation include depth to a water table, ponding, flooding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

Small commercial buildings are structures that are less than three stories high and do not have basements. The foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. The ratings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility (which is inferred from the Unified classification). The properties that affect the ease and amount of excavation include flooding, depth to a water table, ponding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

In table 7, *local roads and streets* have an all-weather surface and carry automobile and light truck traffic all year. They have a subgrade of cut or fill soil material; a base of gravel, crushed rock, or soil material stabilized by lime or cement; and a surface of flexible material (asphalt), rigid material (concrete), or gravel with a binder. The ratings are based on the soil properties that affect the ease of excavation and grading and the traffic-supporting capacity. The properties that affect the ease of excavation and grading are depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, depth to a water table, ponding, flooding, the amount of large stones, and slope. The properties that affect the traffic-supporting capacity are soil strength (as inferred from the AASHTO group index number), subsidence, linear extensibility (shrink-swell potential), the potential for frost action, depth to a water table, and ponding.

Shallow excavations are trenches or holes dug to a maximum depth of 5 or 6 feet for graves, utility lines, open ditches, or other purposes. The ratings are based on the soil properties that influence the ease of digging and the resistance to sloughing. Depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, the amount of large stones, and dense layers influence the ease of digging, filling, and compacting. Depth to the seasonal high water table, flooding, and ponding may restrict the period when excavations can be made. Slope influences the ease of using machinery. Soil texture, depth to the water table, and linear extensibility (shrink-swell potential) influence the resistance to sloughing.

Lawns and landscaping require soils on which turf and ornamental trees and shrubs can be established and maintained. Irrigation is not considered in the ratings. The ratings are based on the soil properties that affect plant growth and trafficability after vegetation is established. The properties that affect plant growth are reaction; depth to a water table; ponding; depth to bedrock or a cemented pan; the available water capacity in the upper 40 inches; the content of salts, sodium, or calcium carbonate; and sulfidic materials. The properties that affect

trafficability are flooding, depth to a water table, ponding, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer.

Sanitary Facilities

Tables 8 and 9 show the degree and kind of soil limitations that affect septic tank absorption fields, sewage lagoons, sanitary landfills, and daily cover for landfill. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

In table 8, *septic tank absorption fields* are areas in which effluent from a septic tank is distributed into the soil through subsurface tiles or perforated pipe. Only that part of the soil between depths of 24 and 60 inches is evaluated. The ratings are based on the soil properties that affect absorption of the effluent, construction and maintenance of the system, and public health. Permeability, depth to a water table, ponding, depth to bedrock or a cemented pan, and flooding affect absorption of the effluent. Stones and boulders, ice, and bedrock or a cemented pan interfere with installation. Subsidence interferes with installation and maintenance. Excessive slope may cause lateral seepage and surfacing of the effluent in downslope areas.

Some soils are underlain by loose sand and gravel or fractured bedrock at a depth of less than 4 feet below the distribution lines. In these soils the absorption field may not adequately filter the effluent, particularly when the system is new. As a result, the ground water may become contaminated.

Sewage lagoons are shallow ponds constructed to hold sewage while aerobic bacteria decompose the solid and liquid wastes. Lagoons should have a nearly level floor surrounded by cut slopes or embankments of compacted soil. Nearly impervious soil material for the lagoon floor and sides is required to minimize seepage and contamination of ground water. Considered in the ratings are slope, permeability, depth to a water table, ponding, depth to bedrock or a cemented pan, flooding, large stones, and content of organic matter.

Soil permeability is a critical property affecting the suitability for sewage lagoons. Most porous soils eventually become sealed when they are used as sites for sewage lagoons. Until sealing occurs, however, the hazard of pollution is severe. Soils that have a permeability rate of more than 2 inches per hour are too porous for the proper functioning of sewage lagoons. In these soils, seepage of the effluent can result in contamination of the ground water. Ground-water contamination is also a hazard if fractured bedrock is within a depth of 40 inches, if the water table is high enough to raise the level of sewage in the lagoon, or if floodwater overtops the lagoon.

A high content of organic matter is detrimental to proper functioning of the lagoon because it inhibits aerobic activity. Slope, bedrock, and cemented pans can cause construction problems, and large stones can hinder compaction of the lagoon floor. If the lagoon is to be uniformly deep throughout, the slope must be gentle enough and the soil material must be thick enough over bedrock or a cemented pan to make land smoothing practical.

In table 9, a *trench sanitary landfill* is an area where solid waste is placed in successive layers in an excavated trench. The waste is spread, compacted, and covered daily with a thin layer of soil excavated at the site. When the trench is full, a final cover of soil material at least 2 feet thick is placed over the landfill. The ratings in the table are based on the soil properties that affect the risk of pollution, the ease of excavation, trafficability, and revegetation. These properties include permeability, depth to bedrock or a cemented pan, depth to a water table, ponding, slope, flooding, texture, stones and boulders, highly organic layers, soil reaction, and content of salts and sodium. Unless otherwise stated, the ratings apply only to that part of the soil within a depth of about 6 feet. For deeper trenches, onsite investigation may be needed.

Hard, nonrippable bedrock, creviced bedrock, or highly permeable strata in or directly below the proposed trench bottom can affect the ease of excavation and the hazard of ground-water pollution.

Slope affects construction of the trenches and the movement of surface water around the landfill. It also affects the construction and performance of roads in areas of the landfill.

Soil texture and consistence affect the ease with which the trench is dug and the ease with which the soil can be used as daily or final cover. They determine the workability of the soil when dry and when wet. Soils that are plastic and sticky when wet are difficult to excavate, grade, or compact and are difficult to place as a uniformly thick cover over a layer of refuse.

The soil material used as the final cover for a trench landfill should be suitable for plants. It should not have excess sodium or salts and should not be too acid. The surface layer generally has the best workability, the highest content of organic matter, and the best potential for plants. Material from the surface layer should be stockpiled for use as the final cover.

In an *area sanitary landfill*, solid waste is placed in successive layers on the surface of the soil. The waste is spread, compacted, and covered daily with a thin layer of soil from a source away from the site. A final cover of soil material at least 2 feet thick is placed over the completed landfill. The ratings in the table are based on the soil properties that affect trafficability and the risk of pollution. These properties include flooding, permeability, depth to a water table, ponding, slope, and depth to bedrock or a cemented pan.

Flooding is a serious problem because it can result in pollution in areas downstream from the landfill. If permeability is too rapid or if fractured bedrock, a fractured cemented pan, or the water table is close to the surface, the leachate can contaminate the water supply. Slope is a consideration because of the extra grading required to maintain roads in the steeper areas of the landfill. Also, leachate may flow along the surface of the soils in the steeper areas and cause difficult seepage problems.

Daily cover for landfill is the soil material that is used to cover compacted solid waste in an area sanitary landfill. The soil material is obtained offsite, transported to the landfill, and spread over the waste. The ratings in the table also apply to the final cover for a landfill. They are based on the soil properties that affect workability, the ease of digging, and the ease of moving and spreading the material over the refuse daily during wet and dry periods. These properties include soil texture, depth to a water table, ponding, rock fragments, slope, depth to bedrock or a cemented pan, reaction, and content of salts, sodium, or lime.

Loamy or silty soils that are free of large stones and excess gravel are the best cover for a landfill. Clayey soils may be sticky and difficult to spread; sandy soils are subject to wind erosion.

Slope affects the ease of excavation and of moving the cover material. Also, it can influence runoff, erosion, and reclamation of the borrow area.

After soil material has been removed, the soil material remaining in the borrow area must be thick enough over bedrock, a cemented pan, or the water table to permit revegetation. The soil material used as the final cover for a landfill should be suitable for plants. It should not have excess sodium, salts, or lime, and should not be too acid.

Construction Materials

Tables 10 and 11 give information about the soils as potential sources of gravel, sand, topsoil, reclamation material, and roadfill. Normal compaction, minor processing, and other standard construction practices are assumed.

In table 10, *gravel* and *sand* are natural aggregates suitable for commercial use with a minimum of processing. They are used in many kinds of construction. Specifications for each use vary widely. In table 10, only the likelihood of finding material in suitable quantity is evaluated. The suitability of the material for specific purposes is not evaluated, nor are factors that affect excavation of the material. The properties used to evaluate the soil as a source of sand or gravel are gradation of grain sizes (as indicated by the Unified classification of the soil), the thickness of suitable material, and the content of rock fragments. If the bottom layer of the soil contains sand or gravel, the soil is considered a likely source regardless of thickness. The assumption is that the sand or gravel layer below the depth of observation exceeds the minimum thickness.

The soils are rated *good, fair,* or *poor* as potential sources of sand and gravel. A rating of *good* or *fair* means that the source material is likely to be in or below the soil. The bottom layer and the thickest layer of the soils are assigned numerical ratings. These ratings indicate the likelihood that the layer is a source of sand or gravel. The number 0.00 indicates that the layer is a poor source. The number 1.00 indicates that the layer is a good source. A number between 0.00 and 1.00 indicates the degree to which the layer is a likely source.

In table 11, the soils are rated *good, fair,* or *poor* as potential sources of reclamation material, roadfill, and topsoil. The features that limit the soils as sources of these materials are specified in the tables. The numerical ratings given after the specified features

indicate the degree to which the features limit the soils as sources of topsoil, reclamation material, or roadfill. The lower the number, the greater the limitation.

Reclamation material is used in areas that have been drastically disturbed by surface mining or similar activities. When these areas are reclaimed, layers of soil material or unconsolidated geological material, or both, are replaced in a vertical sequence. The reconstructed soil favors plant growth. The ratings in the table do not apply to quarries and other mined areas that require an offsite source of reconstruction material. The ratings are based on the soil properties that affect erosion and stability of the surface and the productive potential of the reconstructed soil. These properties include the content of sodium, salts, and calcium carbonate; reaction; available water capacity; erodibility; texture; content of rock fragments; and content of organic matter and other features that affect fertility.

Roadfill is soil material that is excavated in one place and used in road embankments in another place. In this table, the soils are rated as a source of roadfill for low embankments, generally less than 6 feet high and less exacting in design than higher embankments.

The ratings are for the whole soil, from the surface to a depth of about 5 feet. It is assumed that soil layers will be mixed when the soil material is excavated and spread.

The ratings are based on the amount of suitable material and on soil properties that affect the ease of excavation and the performance of the material after it is in place. The thickness of the suitable material is a major consideration. The ease of excavation is affected by large stones, depth to a water table, and slope. How well the soil performs in place after it has been compacted and drained is determined by its strength (as inferred from the AASHTO classification of the soil) and linear extensibility (shrink-swell potential).

Topsoil is used to cover an area so that vegetation can be established and maintained. The upper 40 inches of a soil is evaluated for use as topsoil. Also evaluated is the reclamation potential of the borrow area. The ratings are based on the soil properties that affect plant growth; the ease of excavating, loading, and spreading the material; and reclamation of the borrow area. Toxic substances, soil reaction, and the properties that are inferred from soil texture, such as available water capacity and fertility, affect plant growth. The ease of excavating, loading, and spreading is affected by rock fragments, slope, depth to a water table, soil texture, and thickness of suitable material. Reclamation of the borrow area is affected by slope, depth to a water table, rock fragments, depth to bedrock or a cemented pan, and toxic material.

The surface layer of most soils is generally preferred for topsoil because of its organic matter content. Organic matter greatly increases the absorption and retention of moisture and nutrients for plant growth.

Water Management

Table 12 gives information on the soil properties and site features that affect water management. The degree and kind of soil limitations are given for pond reservoir areas; embankments, dikes, and levees; and aquifer-fed excavated ponds. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Pond reservoir areas hold water behind a dam or embankment. Soils best suited to this use have low seepage potential in the upper 60 inches. The seepage potential is determined by the permeability of the soil and the depth to fractured bedrock or other permeable material. Excessive slope can affect the storage capacity of the reservoir area.

Embankments, dikes, and levees are raised structures of soil material, generally less than 20 feet high, constructed to impound water or to protect land against overflow. Embankments that have zoned construction (core and shell) are not considered. In this table, the soils are rated as a source of material for embankment fill. The ratings apply to the soil material

below the surface layer to a depth of about 5 feet. It is assumed that soil layers will be uniformly mixed and compacted during construction.

The ratings do not indicate the ability of the natural soil to support an embankment. Soil properties to a depth even greater than the height of the embankment can affect performance and safety of the embankment. Generally, deeper onsite investigation is needed to determine these properties.

Soil material in embankments must be resistant to seepage, piping, and erosion and have favorable compaction characteristics. Unfavorable features include less than 5 feet of suitable material and a high content of stones or boulders, organic matter, or salts or sodium. A high water table affects the amount of usable material. It also affects trafficability.

Aquifer-fed excavated ponds are pits or dugouts that extend to a ground-water aquifer or to a depth below a permanent water table. Excluded are ponds that are fed only by surface runoff and embankment ponds that impound water 3 feet or more above the original surface. Excavated ponds are affected by depth to a permanent water table, permeability of the aquifer, and quality of the water as inferred from the salinity of the soil. Depth to bedrock and the content of large stones affect the ease of excavation.

Soil Properties

Data relating to soil properties are collected during the course of the soil survey.

Soil properties are ascertained by field examination of the soils and by laboratory index testing of some benchmark soils. Established standard procedures are followed. During the survey, many shallow borings are made and examined to identify and classify the soils and to delineate them on the soil maps. Samples are taken from some typical profiles and tested in the laboratory to determine particle-size distribution, plasticity, and compaction characteristics.

Estimates of soil properties are based on field examinations, on laboratory tests of samples from the survey area, and on laboratory tests of samples of similar soils in nearby areas. Tests verify field observations, verify properties that cannot be estimated accurately by field observation, and help to characterize key soils.

The estimates of soil properties are shown in tables. They include engineering index properties, physical and chemical properties, and pertinent soil and water features.

Engineering Index Properties

Table 13 gives the engineering classifications and the range of index properties for the layers of each soil in the survey area.

Depth to the upper and lower boundaries of each layer is indicated.

Texture is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter. “Loam,” for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is 15 percent or more, an appropriate modifier is added, for example, “gravelly.” Textural terms are defined in the Glossary.

Classification of the soils is determined according to the Unified soil classification system (ASTM, 2001) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO, 2000).

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to particle-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as PT. Soils exhibiting engineering properties of two groups can have a dual classification, for example, CL-ML.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of particle-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

Rock fragments larger than 10 inches in diameter and 3 to 10 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage.

Percentage (of soil particles) passing designated sieves is the percentage of the soil fraction less than 3 inches in diameter based on an ovendry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field.

Liquid limit and *plasticity index* (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination.

The estimates of particle-size distribution, liquid limit, and plasticity index are generally rounded to the nearest 5 percent. Thus, if the ranges of gradation and Atterberg limits extend a marginal amount (1 or 2

percentage points) across classification boundaries, the classification in the marginal zone is generally omitted in the table.

Physical Properties

Table 14 shows estimates of some physical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated.

Particle size is the effective diameter of a soil particle as measured by sedimentation, sieving, or micrometric methods. Particle sizes are expressed as classes with specific effective diameter class limits. The broad classes are sand, silt, and clay, ranging from the larger to the smaller.

Clay as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. In table 14, the estimated clay content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of sand, silt, and clay affects the physical behavior of a soil. Particle size is important for engineering interpretations, for determination of soil hydrologic qualities, and for soil classification.

The amount and kind of clay affect the fertility and physical condition of the soil and the ability of the soil to adsorb cations and to retain moisture. They influence shrink-swell potential, permeability, plasticity, the ease of soil dispersion, and other soil properties. The amount and kind of clay in a soil also affect earthmoving operations.

Moist bulk density is the weight of soil (ovendry) per unit volume. Volume is measured when the soil is at field moisture capacity, that is, the moisture content at $^1/_3$- or $^1/_{10}$-bar (33kPa or 10kPa) moisture tension. Weight is determined after the soil is dried at 105 degrees C. In the table, the estimated moist bulk density of each soil horizon is expressed in grams per cubic centimeter of soil material that is less than 2 millimeters in diameter. Bulk density data are used to compute shrink-swell potential, available water capacity, total pore space, and other soil properties. The moist bulk density of a soil indicates the pore space available for water and roots. Depending on soil texture, a bulk density of more than 1.4 can restrict water storage and root penetration. Moist bulk density is influenced by texture, kind of clay, content of organic matter, and soil structure.

Permeability (K_{sat}) refers to the ability of a soil to transmit water or air. The term "permeability," as used in soil surveys, indicates saturated hydraulic conductivity (K_{sat}). The estimates in the table indicate the rate of water movement, in inches per hour, when the soil is saturated. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Permeability is considered in the design of soil drainage systems and septic tank absorption fields.

Available water capacity refers to the quantity of water that the soil is capable of storing for use by plants. The capacity for water storage is given in inches of water per inch of soil for each soil layer. The capacity varies, depending on soil properties that affect retention of water. The most important properties are the content of organic matter, soil texture, bulk density, and soil structure. Available water capacity is not an estimate of the quantity of water actually available to plants at any given time.

Linear extensibility refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. It is an expression of the volume change between the water content of the clod at $^1/_3$- or $^1/_{10}$-bar tension (33kPa or 10kPa tension) and oven dryness. The volume change is reported in the table as percent change for the whole soil. Volume change is influenced by the amount and type of clay minerals in the soil.

Linear extensibility is used to determine the shrink-swell potential of soils. The shrink-swell potential is low if the soil has a linear extensibility of less than 3 percent; moderate if 3 to 6 percent; high if 6 to 9 percent; and very high if more than 9 percent. If the linear extensibility is more than 3, shrinking and swelling can cause damage to buildings, roads, and other structures and to plant roots. Special design commonly is needed.

Organic matter is the plant and animal residue in the soil at various stages of decomposition. In table 14, the estimated content of organic matter is expressed as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

Organic matter has a positive effect on available water capacity, water infiltration, soil organism activity, and tilth. It is a source of nitrogen and other nutrients for plants and soil organisms.

Erosion factors are shown in table 14 as the K factor (Kw and Kf) and the T factor. Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of several factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet

and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and permeability. Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

Erosion factor Kw indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.

Erosion factor Kf indicates the erodibility of the fine-earth fraction, or the material less than 2 millimeters in size.

Erosion factor T is an estimate of the maximum average annual rate of soil erosion by wind or water that can occur without affecting productivity over a sustained period. The rate is in tons per acre per year.

Wind erodibility groups are made up of soils that have similar properties affecting their susceptibility to wind erosion in cultivated areas. The soils assigned to group 1 are the most susceptible to wind erosion, and those assigned to group 8 are the least susceptible. The groups are as follows:

1. Coarse sands, sands, fine sands, and very fine sands.
2. Loamy coarse sands, loamy sands, loamy fine sands, loamy very fine sands, ash material, and sapric soil material.
3. Coarse sandy loams, sandy loams, fine sandy loams, and very fine sandy loams.

4L. Calcareous loams, silt loams, clay loams, and silty clay loams.

4. Clays, silty clays, noncalcareous clay loams, and silty clay loams that are more than 35 percent clay.
5. Noncalcareous loams and silt loams that are less than 20 percent clay and sandy clay loams, sandy clays, and hemic soil material.
6. Noncalcareous loams and silt loams that are more than 20 percent clay and noncalcareous clay loams that are less than 35 percent clay.
7. Silts, noncalcareous silty clay loams that are less than 35 percent clay, and fibric soil material.
8. Soils that are not subject to wind erosion because of rock fragments on the surface or because of surface wetness.

Wind erodibility index is a numerical value indicating the susceptibility of soil to wind erosion, or the tons per acre per year that can be expected to be lost to wind erosion. There is a close correlation between wind erosion and the texture of the surface layer, the size and durability of surface clods, rock fragments, organic matter, and a calcareous reaction. Soil moisture and frozen soil layers also influence wind erosion.

Chemical Properties

Table 15 shows estimates of some chemical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated.

Cation-exchange capacity is the total amount of extractable bases that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. Soils having a low cation-exchange capacity hold fewer cations and may require more frequent applications of fertilizer than soils having a high cation-exchange capacity. The ability to retain cations reduces the hazard of ground-water pollution.

Effective cation-exchange capacity refers to the sum of extractable bases plus aluminum expressed in terms of milliequivalents per 100 grams of soil. It is determined for soils that have pH of less than 5.5.

Soil reaction is a measure of acidity or alkalinity. The pH of each soil horizon is based on many field tests. For many soils, values have been verified by laboratory analyses. Soil reaction is important in, in evaluating soil amendments for fertility and stabilization, and in determining the risk of corrosion.

Calcium carbonate equivalent is the percent of carbonates, by weight, in the fraction of the soil less than 2 millimeters in size. The availability of plant nutrients is influenced by the amount of carbonates in the soil. Incorporating nitrogen fertilizer into calcareous soils helps to prevent nitrite accumulation and ammonium-N volatilization.

Gypsum is expressed as a percent, by weight, of hydrated calcium sulfates in the fraction of the soil less than 20 millimeters in size. Gypsum is partially soluble in water. Soils that have a high content of gypsum may collapse if the gypsum is removed by percolating water.

Salinity is a measure of soluble salts in the soil at saturation. It is expressed as the electrical conductivity of the saturation extract, in millimhos per centimeter at 25 degrees C. Estimates are based on field and laboratory measurements at representative sites. Salinity affects the stability of soil if used as construction material and the potential of the soil to corrode metal and concrete.

Sodium adsorption ratio (SAR) is a measure of the amount of sodium (Na) relative to calcium (Ca) and magnesium (Mg) in the water extract from saturated

soil paste. It is the ratio of the Na concentration divided by the square root of one-half of the Ca + Mg concentration. Soils that have SAR values of 13 or more may be characterized by an increased dispersion of organic matter and clay particles, reduced permeability and aeration, and a general degradation of soil structure.

Soil Features

Table 16 gives estimates of various soil features. The estimates are used in land use planning that involves engineering considerations.

A *restrictive layer* is a nearly continuous layer that has one or more physical, chemical, or thermal properties that significantly impede the movement of water and air through the soil or that restrict roots or otherwise provide an unfavorable root environment. Examples are bedrock, cemented layers, dense layers, and frozen layers. The table indicates the hardness and thickness of the restrictive layer, both of which significantly affect the ease of excavation. *Depth to top* is the vertical distance from the soil surface to the upper boundary of the restrictive layer.

Subsidence is the settlement of organic soils or of saturated mineral soils of very low density. Subsidence generally results from either desiccation and shrinkage or oxidation of organic material, or both, following drainage. Subsidence takes place gradually, usually over a period of several years. The table shows the expected initial subsidence, which usually is a result of drainage, and total subsidence, which results from a combination of factors.

Potential for frost action is the likelihood of upward or lateral expansion of the soil caused by the formation of segregated ice lenses (frost heave) and the subsequent collapse of the soil and loss of strength on thawing. Frost action occurs when moisture moves into the freezing zone of the soil. Temperature, texture, density, permeability, content of organic matter, and depth to the water table are the most important factors considered in evaluating the potential for frost action. It is assumed that the soil is not insulated by vegetation or snow and is not artificially drained. Silty and highly structured, clayey soils that have a high water table in winter are the most susceptible to frost action. Well drained, very gravelly, or very sandy soils are the least susceptible. Frost heave and low soil strength during thawing cause damage to pavements and other rigid structures.

Risk of corrosion pertains to potential soil-induced electrochemical or chemical action that corrodes or weakens uncoated steel or concrete. The rate of corrosion of uncoated steel is related to such factors as soil moisture, particle-size distribution, acidity, and electrical conductivity of the soil. The rate of corrosion of concrete is based mainly on the sulfate and sodium content, texture, moisture content, and acidity of the soil. Special site examination and design may be needed if the combination of factors results in a severe hazard of corrosion. The steel or concrete in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than the steel or concrete in installations that are entirely within one kind of soil or within one soil layer.

For uncoated steel, the risk of corrosion, expressed as *low, moderate,* or *high,* is based on soil drainage class, total acidity, electrical resistivity near field capacity, and electrical conductivity of the saturation extract.

For concrete, the risk of corrosion also is expressed as *low, moderate,* or *high*. It is based on soil texture, acidity, and amount of sulfates in the saturation extract.

Water Features

Table 17 gives estimates of various water features. The estimates are used in land use planning that involves engineering considerations.

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The four hydrologic soil groups are:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell

potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

The *months* in the table indicate the portion of the year in which the feature is most likely to be a concern.

Ponding is standing water in a closed depression. Unless a drainage system is installed, the water is removed only by percolation, transpiration, or evaporation. Table 17 indicates *surface water depth* and the *duration* and *frequency* of ponding. Duration is expressed as *very brief* if less than 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, rare, occasional, and frequent. *None* means that ponding is not probable; *rare* that it is unlikely but possible under unusual weather conditions (the chance of ponding is nearly 0 percent to 5 percent in any year); *occasional* that it occurs, on the average, once or less in 2 years (the chance of ponding is 5 to 50 percent in any year); and *frequent* that it occurs, on the average, more than once in 2 years (the chance of ponding is more than 50 percent in any year).

Flooding is the temporary inundation of an area caused by overflowing streams, by runoff from adjacent slopes, or by tides. Water standing for short periods after rainfall or snowmelt is not considered flooding, and water standing in swamps and marshes is considered ponding rather than flooding.

Duration and *frequency* are estimated. Duration is expressed as *extremely brief* if 0.1 hour to 4 hours, *very brief* if 4 hours to 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, very rare, rare, occasional, and frequent. *None* means that flooding is not probable; *very rare* that it is very unlikely but possible under extremely unusual weather conditions (the chance of flooding is less than 1 percent in any year); *rare* that it is unlikely but possible under unusual weather conditions (the chance of flooding is 1 to 5 percent in any year); *occasional* that it occurs infrequently under normal weather conditions (the chance of flooding is 5 to 50 percent in any year); *and frequent* that it is likely to occur often under normal weather conditions (the chance of flooding is more than 50 percent in any year but is less than 50 percent in all months in any year).

The information is based on evidence in the soil profile, namely thin strata of gravel, sand, silt, or clay deposited by floodwater; irregular decrease in organic matter content with increasing depth; and little or no horizon development.

Also considered are local information about the extent and levels of flooding and the relation of each soil on the landscape to historic floods. Information on the extent of flooding based on soil data is less specific than that provided by detailed engineering surveys that delineate flood-prone areas at specific flood frequency levels.

Classification of the Soils

The system of soil classification used by the National Cooperative Soil Survey has six categories (Soil Survey Staff, 1998 and 1999). Beginning with the broadest, these categories are the order, suborder, great group, subgroup, family, and series. Classification is based on soil properties observed in the field or inferred from those observations or from laboratory measurements. Table 18 shows the classification of the soils in the survey area. The categories are defined in the following paragraphs.

ORDER. Twelve soil orders are recognized. The differences among orders reflect the dominant soil-forming processes and the degree of soil formation. Each order is identified by a word ending in *sol*. An example is Alfisol.

SUBORDER. Each order is divided into suborders primarily on the basis of properties that influence soil genesis and are important to plant growth or properties that reflect the most important variables within the orders. The last syllable in the name of a suborder indicates the order. An example is Ustalf (*Ust*, meaning humid, plus *alf*, from Alfisol).

GREAT GROUP. Each suborder is divided into great groups on the basis of close similarities in kind, arrangement, and degree of development of pedogenic horizons; soil moisture and temperature regimes; type of saturation; and base status. Each great group is identified by the name of a suborder and by a prefix that indicates a property of the soil. An example is Haplustalfs (*Hapl*, meaning minimal horizonation, plus *ustalf*, the suborder of the Alfisols that has a ustic moisture regime).

SUBGROUP. Each great group has a typic subgroup. Other subgroups are intergrades or extragrades. The typic subgroup is the central concept of the great group; it is not necessarily the most extensive. Intergrades are transitions to other orders, suborders, or great groups. Extragrades have some properties that are not representative of the great group but do not indicate transitions to any other taxonomic class. Each subgroup is identified by one or more adjectives preceding the name of the great group. The adjective *Aridic* identifies the subgroup that is somewhat drier than the typical great group. An example is Aridic Haplustalfs.

FAMILY. Families are established within a subgroup on the basis of physical and chemical properties and other characteristics that affect management. Generally, the properties are those of horizons below plow depth where there is much biological activity. Among the properties and characteristics considered are particle-size class, mineralogy class, cation-exchange activity class, soil temperature regime, soil depth, and reaction class. A family name consists of the name of a subgroup preceded by terms that indicate soil properties. An example is fine-loamy, mixed, superactive, mesic Aridic Haplustalfs.

SERIES. The series consists of soils within a family that have horizons similar in color, texture, structure, reaction, consistence, mineral and chemical composition, and arrangement in the profile. An example is the Carri series.

Soil Series and Their Morphology

In this section, each soil series recognized in the survey area is described. Characteristics of the soil and the material in which it formed are identified for each series. A pedon, a small three-dimensional area of soil, that is typical of the series in the survey area is described. The detailed description of each soil horizon follows standards in the "Soil Survey Manual" (Soil Survey Division Staff, 1993). Many of the technical terms used in the descriptions are defined in "Soil Taxonomy" (Soil Survey Staff, 1999) and in "Keys to Soil Taxonomy" (Soil Survey Staff, 1998). Unless otherwise indicated, colors in the descriptions are for moist soil. Following the pedon description is the range of important characteristics of the soils in the series.

Alko family

Depth class: shallow to duripan
Drainage class: well drained
Permeability: moderately rapid
Landform: fan terraces
Parent material: alluvium derived from mixed rock sources

Slope: 0 to 25 percent
Elevation: 2,000 to 4,800 feet
Mean annual precipitation: 9 to 12 inches
Mean annual air temperature: 59 to 68 degrees F
Frost-free period: 180 to 255 days
Classification: Loamy, mixed, superactive, thermic, shallow Typic Haplodurids

Typical Pedon

A—0 to 1 inch; light brown (7.5YR 6/4) cobbly loam, brown (7.5YR 4/4) moist; weak medium platy structure; slightly hard, friable, slightly sticky and nonplastic; common fine roots; many very fine vesicular pores; 10 percent gravel, 20 percent cobble; strongly effervescent; 5 percent calcium carbonate equivalent; moderately alkaline (pH 8.0); abrupt smooth boundary.

Bw—1 to 10 inches; light brown (7.5YR 6/4) gravelly loam, brown (7.5YR 5/4) moist; moderate medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common fine roots; many very fine tubular pores; 25 percent gravel; violently effervescent, 20 percent calcium carbonate equivalent; moderately alkaline (pH 8.4); clear smooth boundary.

Bk—10 to 15 inches; light brown (7.5YR 6/4) gravelly loam, brown (7.5YR 5/4) moist; moderate medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common fine roots; many very fine tubular pores; 30 percent gravel; violently effervescent, 28 percent calcium carbonate equivalent; thin calcium carbonate coats on the undersides of rock fragments; moderately alkaline (pH 8.0); abrupt wavy boundary.

2Bkqm—15 to 31 inches; indurated silica calcium carbonate cemented duripan.

2C—31 to 60 inches; light brownish gray (10YR 6/2) extremely gravelly sand, brown (10YR 5/3) moist; massive; loose, nonsticky and nonplastic; many very fine irregular pores; 70 percent gravel; strongly effervescent; moderately alkaline (pH 8.0).

Type location: In an area of Alko family cobbly loam, about 1,750 feet west and 1,450 feet south of the northeast corner of sec. 22, T. 19 N., R. 19 W.

Range in Characteristics

Use of the "Alko family" reference term is a convention to reduce name length and implies no specific use of a soil series, reduced mapping intensity, or range of properties beyond that which is described in the map unit description and database. Use, management, and interpretations are not affected.

Reaction: moderately alkaline or strongly alkaline above the duripan.

Control section
Clay content: 8 to 18 percent
Rock fragments: 0 to 35 percent

A horizon
Hue: 10YR, 7.5YR
Value: 5 to 8 dry, 4 to 7 moist

Bk and Bw horizon (when present):
Hue: 10YR, 7.5YR
Value: 5 to 8 dry, 4 to 7 moist
Chroma: 2 to 4, dry or moist
Texture: sandy loam, coarse sandy loam, loam
Effervescence: strongly effervescent or violently effervescent

Bkqm horizon:
Rupture resistance: very strongly cemented to indurated

2C horizons
Hue: 10YR, 7.5YR
Value: 6 to 8 dry, 4 to 7 moist
Chroma: 2 to 4, dry or moist
Textures: Below the pan are sand, coarse sand, loamy fine sand

Antares Series

Depth class: shallow and very shallow to bedrock (paralithic)
Drainage class: somewhat excessively drained
Permeability: moderately rapid
Landform: hills
Parent material: alluvium derived from granite
Slope: 3 to 30 percent
Elevation: 2,200 to 4,600 feet
Mean annual precipitation: 9 to 12 inches
Mean annual air temperature: 59 to 66 degrees F
Frost-free period: 200 to 230 days
Classification: Loamy-skeletal, mixed, superactive, calcareous, thermic, shallow Typic Torriorthents

Typical Pedon

A—0 to 2 inches; light yellowish brown (10YR 6/4) extremely gravelly sandy loam, yellowish brown (10YR 5/4) moist; moderate fine granular structure; soft, very friable, nonsticky and nonplastic; common very fine and fine roots; common very fine irregular pores; 70 percent gravel; strongly effervescent; moderately alkaline (pH 8.0); abrupt smooth boundary.

Bw—2 to 11 inches; light yellowish brown (10YR 6/4) very gravelly sandy loam, yellowish brown (10YR 5/4) moist; weak fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; common fine and medium roots; common very fine irregular pores;

40 percent gravel; strongly effervescent; moderately alkaline (pH 8.2); abrupt wavy boundary.

2Crk—11 to 40 inches; fractured and partially weathered granitic rock; common calcium carbonate coatings in joints.

2R—40 inches; granite; few faint calcium carbonate coatings in widely spaced joints.

Type location: In an area of Azure-Detrital-Antares complex, 5 to 30 percent slopes; about 1,400 feet west and 1,600 feet north of the southeast corner of sec. 32, T. 28 N., R. 18 W.

Range in Characteristics

Rock fragments: 35 to 70 percent
Reaction: slightly or moderately alkaline
Clay content of control section: 10 to 18 percent

A horizon
Hue: 7.5YR, 10YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 3 or 4, dry or moist
Effervescence: strong or violent

Bw horizon
Hue: 7.5YR, 10YR
Value: 5 or 6 dry, 3 or 4 moist
Chroma: 3 to 6, dry or moist
Effervescence: strong or violent

Appleseed Series

Depth class: very shallow and shallow to bedrock (lithic)
Drainage class: somewhat excessively drained
Permeability: moderately rapid
Landform: hills and mountains
Parent material: alluvium and colluvium derived from limestone
Slope: 4 to 75 percent
Elevation: 1,100 to 2,000 feet
Mean annual precipitation: 3 to 6 inches
Mean annual air temperature: 70 to 78 degrees F
Frost-free period: 280 to 320 days
Classification: Loamy-skeletal, mixed, superactive, calcareous, hyperthermic Lithic Torriorthents

Typical Pedon

A—0 to 2 inches; light yellowish brown (10YR 6/4) extremely cobbly sandy loam, dark yellowish brown (10YR 4/4) moist; weak fine granular structure; slightly hard, very friable, nonsticky and nonplastic; many very fine roots; many very fine irregular pores; 50 percent gravel, 20 percent cobble, 10 percent stone; strongly effervescent, 30 percent calcium carbonate equivalent; moderately alkaline (pH 8.0); abrupt smooth boundary.

Bk—2 to 8 inches; light yellowish brown (10YR 6/4) extremely cobbly sandy loam, dark yellowish brown (10YR 4/4) moist; weak fine subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; many very fine roots; many very fine tubular pores; 50 percent gravel, 20 percent cobble, 10 percent stone; strongly effervescent, 32 percent calcium carbonate equivalent, rock fragments are calcium carbonate coated; moderately alkaline (pH 8.0); abrupt smooth boundary.

2R—8 inches; limestone bedrock.

Type location: In an area of Rock outcrop-Appleseed complex, 35 to 75 percent slopes; 35 degrees, 38 minutes, 07 seconds north latitude; 113 degrees, 57 minutes, 21 seconds west longitude.

Range in Characteristics

Rock fragments: more than 35 percent rock fragments made up of a combination of gravel, cobble, and stone
Clay content: 7 to 18 percent
Organic matter: less than 1 percent
Effervescence: slight to violent
Reaction: slightly to moderately alkaline
Calcium carbonate equivalent: 5 to 35 percent

A and Bk horizons
Hue: 10YR, 7.5YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 3 or 4, dry or moist

Aridic Argiustolls

Depth class: moderately deep to very deep
Drainage class: well drained
Permeability: moderately slow
Landform: fan terraces
Parent material: alluvium derived from limestone
Slope: 1 to 40 percent
Elevation: 5,100 to 5,300 feet
Mean annual precipitation: 14 to 18 inches
Mean annual air temperature: 48 to 52 degrees F
Frost-free period: 135 to 150 days
Classification: Aridic Argiustolls

Typical Pedon

A—0 to 2 inches; brown (10YR 4/3) silty clay loam, dark brown (10YR 3/3) moist; strong very fine granular structure; slightly hard, friable, moderately sticky and slightly plastic; many very fine roots; many very fine

irregular pores; 2 percent gravel; slightly effervescent; moderately alkaline (pH 8.0), abrupt smooth boundary.

Bt1—2 to 11 inches; brown (10YR 4/3) silty clay, dark brown (10YR 3/3) moist; strong fine subangular blocky structure; hard, firm, very sticky and very plastic; many very fine roots; common very fine tubular pores; few thin clay films lining pores and on faces of peds; 2 percent gravel; slightly effervescent; moderately alkaline (ph 8.0); clear wavy boundary.

Bt2—11 to 30 inches; brown (10YR 4/3) silty clay, brown (10YR 4/3) moist; strong fine and medium subangular blocky structure; very hard, very firm, very sticky and very plastic; common very fine roots; common very fine tubular pores; common moderately thick clay films lining pores and on faces of peds; 2 percent gravel; strongly effervescent; moderately alkaline (pH 8.2); clear wavy boundary.

Btk—30 to 60 inches; brown (7.5YR 5/4) gravelly silty clay, brown (7.5YR 4/4) moist; weak fine subangular blocky structure; very hard, very firm, very sticky and very plastic; few very fine roots; common very fine tubular pores; few thin clay films lining pores and on faces of peds; 20 percent gravel; violently effervescent; moderately alkaline (pH 8.4).

Type location: In an area of Aridic Argiustolls-Lithic Haplustolls complex, 1 to 40 percent slopes. About 900 feet south and 600 feet west of the northeast corner of sec. 7, T. 22 N., R. 10 W.

Range in Characteristics

Soils in this landscape position are highly variable with respect to depth, texture, color and/or chemical properties. Therefore physical and chemical properties of specific horizons are not given and interpretations such as erodibility are not determined. The taxonomic unit description is representative of what may be found in this landscape position.

Arivaca Taxadjunct

Depth class: moderately deep to bedrock (lithic)
Drainage class: well drained
Permeability: slow
Landform: pediments
Parent material: alluvium derived from mixed volcanic rock
Slope: 2 to 15 percent
Elevation: 4,000 to 5,500 feet
Mean annual precipitation: 12 to 16 inches
Mean annual air temperature: 57 to 61 degrees F
Frost-free period: 180 to 210 days
Classification: Fine, smectitic, thermic Ustic Haplargids

Typical Pedon

A—O to 2 inches; brown (7.5YR 5/2) very cobbly silty clay loam, brown (7.5YR 4/2) moist; moderate medium granular structure; slightly hard, friable, slightly sticky and slightly plastic; many fine roots; many fine vesicular pores; 20 percent gravel, 35 percent cobble, and 2 percent stones; noneffervescent; neutral (pH 7.2); abrupt wavy boundary.

BA—2 to 6 inches; brown (7.5YR 4/2) cobbly silty clay, dark brown (7.5YR 3/2) moist; moderate medium subangular blocky structure; hard, firm, sticky and plastic; common fine roots; common fine tubular pores; 5 percent gravel, 25 percent cobble; slightly effervescent; slightly alkaline (pH 7.4); clear wavy boundary.

2Bt1—6 to 17 inches; reddish brown (5YR 5/3) clay, reddish brown (5YR 4/3) moist; strong medium prismatic structure; very hard, very firm, very sticky and very plastic; common fine roots; common fine tubular pores; few faint clay films on faces of peds; 2 percent gravel; many pressure faces; slightly effervescent; slightly alkaline (pH 7.4); gradual wavy boundary.

2Bt2—17 to 30 inches; reddish brown (5YR 5/3) clay, reddish brown (5YR 4/3) moist; weak medium subangular blocky structure; very hard, very firm, very sticky and very plastic; common very fine roots; common fine tubular pores; few faint clay film on faces of peds; 5 percent gravel; many pressure faces; strongly effervescent; slightly alkaline (pH 7.4); abrupt wavy boundary.

3Bk—30 to 36 inches; pink (7.5YR 7/4) clay loam, brown (7.5YR 5/4) moist; moderate fine subangular blocky structure; hard, firm, sticky and plastic few very fine roots; few fine tubular pores; 10 percent gravel; common medium soft calcium carbonate masses; violently effervescent; slightly alkaline (pH 7.8); abrupt irregular boundary.

4R—36 inches; andesite bedrock.

Type location: In an area of Graham-Arivaca complex, 2 to 15 percent slopes; about 1,650 feet south and 640 feet west of the NE corner of sec. 4, T. 20 N. R. 11 W.

Range in Characteristics

These soils are a taxadjunct to the Arivaca series. This component does not have a petrocalcic horizon overlying bedrock.
Depth to bedrock: 20 to 40 inches
Effervescence: none to violent

A and BA horizons
Hue: 5YR, 7.5YR

Value: 4 or 5 dry, 3 or 4 moist
Chroma: 2 or 3, dry or moist

Bt horizon
Hue: 5YR, 7.5YR
Value: 4 or 5 dry, 3 or 4 moist
Chroma: 3 or 4 dry or moist
Texture: clay loam and clay
Rock fragments: less than 25 percent

Bk horizon
Hue: 5YR, 7.5YR
Value: 4 to 7 dry, 3 to 5 moist
Calcium carbonate equivalent: less than 15 percent

Arizo Series

Depth class: very deep
Drainage class: excessively drained
Permeability: Rapid to very rapid permeability. Arizo soils with sandy loam and loam surface textures have moderate or moderately rapid over very rapid permeability.
Landform: flood plains and alluvial fans
Parent material: alluvium derived from mixed rock sources
Slope: 0 to 6 percent
Elevation: 2,000 to 4,600 feet
Mean annual precipitation: 6 to 12 inches
Mean annual air temperature: 57 to 70 degrees F
Frost-free period: 200 to 280 days
Classification: Sandy-skeletal, mixed, thermic Typic Torriorthents

Typical Pedon

A—0 to 1 inch; yellowish brown (10YR 5/4) gravelly sandy loam, brown (10YR 4/3) moist; weak coarse platy structure; slightly hard, very friable, nonsticky and nonplastic; few fine and medium roots; few fine vesicular and many very fine and fine interstitial pores; 25 percent gravel; slightly effervescent; moderately alkaline (pH 7.9); abrupt wavy boundary.

C1—1 to 9 inches; brown (10YR 4/3) loamy coarse sand, brown (10YR 4/3) moist; single grained; loose, nonsticky and nonplastic; few fine and medium roots; many very fine and fine interstitial pores; 7 percent gravel; few very thin coats of calcium carbonate on undersides of rock fragments; slightly effervescent; moderately alkaline (pH 7.9); gradual wavy boundary.

C2—9 to 60 inches; light brownish gray (10YR 6/2) extremely gravelly loamy coarse sand, dark grayish brown (10YR 4/2) moist; single grained; loose, nonsticky and nonplastic; few very fine and fine roots; many very fine and fine, and few medium interstitial pores; 70 percent gravel; strongly effervescent; moderately alkaline (pH 8.2).

Type location: In an area of Arizo-Riverwash complex, 0 to 1 percent slopes; about 2,000 feet north and 2,900 feet west of the northwest corner of sec. 31, T. 27 N., R. 20 W.

Range in Characteristics

Reaction: slightly to moderately alkaline
Other features: Effervescent in some or all parts, with thin calcium carbonate coatings on undersides of rock fragments in some pedons.

Control section
Rock fragments: 35 to 85 percent

A horizon
Hue: 10YR, 7.5YR
Value: 5 to 8 dry, 3 to 6 moist
Chroma: 2 to 6, dry or moist

C horizon
Hue: 10YR, 7.5YR
Value: 4 to 8 dry, 3 to 6 moist
Chroma: 2 to 6, dry or moist
Texture: averages coarse sand to loamy sand

Azure Series

Depth class: shallow to bedrock (paralithic)
Drainage class: somewhat excessively drained
Permeability: moderately rapid
Landform: hills
Parent material: alluvium derived from mixed rock sources
Slope: 5 to 30 percent
Elevation: 2,200 to 3,500 feet
Mean annual precipitation: 9 to 12 inches
Mean annual air temperature: 57 to 62 degrees F
Frost-free period: 200 to 230 days
Classification: Loamy-skeletal, mixed, superactive, thermic, shallow Typic Haplargids

Typical Pedon

A—0 to 2 inches; yellowish brown (10YR 5/4) very gravelly sandy loam, brown (10YR 4/3) moist; weak fine granular structure; loose, very friable, nonsticky and nonplastic; many very fine roots; few very fine tubular pores; 50 percent gravel; slightly effervescent; moderately alkaline (pH 8.0); abrupt smooth boundary.

Bt1—2 to 6 inches; brown (7.5YR 5/4) very gravelly sandy loam, brown (7.5YR 4/4) moist; moderate fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine,

fine, and medium roots; few very fine tubular pores; 40 percent gravel; slightly effervescent; moderately alkaline (pH 8.0); clear wavy boundary.

Bt2—6 to 10 inches; brown (7.5YR 5/4) very gravelly sandy loam, brown (7.5YR 4/4) moist; moderate fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine, fine, and medium roots; few very fine tubular pores; 40 percent gravel; slightly effervescent; moderately alkaline (pH 8.2); abrupt smooth boundary.

2Cr—10 to 28 inches; weathered granite; abrupt smooth boundary.

2R—28 inches; granite bedrock.

Type location: In an area of Azure-Detrital-Antares complex, 5 to 30 percent slopes; about 930 feet north and 50 west of the southeast corner of sec. 10, T. 24. N., R. 21 W.

Range in Characteristics

Rock fragments: average more than 35 percent in the control section. A surface lag layer containing 20 to 50 percent gravel is common.
Reaction: slightly to moderately alkaline
Calcium carbonate: slightly effervescent to strongly effervescent throughout, 3 to 7 percent calcium carbonate equivalent.
Clay content: averages 12 to 17 percent in the control section

A horizon
Hue: 7.5YR, 10YR
Value: 4 or 5 dry, 3 or 4 moist
Chroma: 3 or 4, dry or moist

Bt horizon
Hue: 5YR, 7.5YR
Value: 4 or 5 dry, 3 or 4 moist
Chroma: 4 to 6, dry or moist
Texture: sandy loam, sandy clay loam (5 to 18 percent clay)

Birdsbeak Series

Depth class: very shallow and shallow to bedrock (paralithic)
Drainage class: well drained
Permeability: slow
Landform: hills
Parent material: alluvium derived from schist
Slope: 10 to 35 percent
Elevation: 4,700 to 5,200 feet
Mean annual precipitation: 10 to 14 inches
Mean annual air temperature: 52 to 55 degrees F
Frost-free period: 150 to 165 days
Classification: Clayey-skeletal, mixed, active, mesic, shallow Ustic Haplargids

Typical Pedon

A—0 to 2 inches; dark yellowish brown (10YR 4/4) very channery loam, dark brown (10YR 3/3) moist; moderate fine granular structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine roots; many very fine tubular pores; noneffervescent; 40 percent channers, 5 percent flagstone; slightly alkaline (pH 7.8); abrupt smooth boundary.

Bt1—2 to 4 inches; brown (7.5YR 4/4) very channery clay loam, brown (7.5YR 4/4) moist; moderate very fine subangular blocky structure; hard, firm, sticky and plastic; few fine roots; many very fine tubular pores; few faint clay films on ped faces and lining pores; noneffervescent; 40 percent channers; slightly alkaline (pH 7.8); clear wavy boundary.

Bt2—4 to 8 inches; reddish brown (5YR 4/4) very channery clay, reddish brown (5YR 4/4) moist; moderate very fine subangular blocky structure; hard, firm, very sticky and very plastic; few fine roots; many very fine tubular pores; few faint clay films on ped faces and lining pores; noneffervescent; 50 percent channers; moderately alkaline (pH 8.0); abrupt wavy boundary.

2Crt—8 to 21 inches; schist, minor areas of soil material in fractures and clay coating some vertical fractures.

2Cr—21 to 60 inches; schist bedrock.

Type location: In an area of Birdsbeak very channery loam, 10 to 35 percent slopes; about 2,200 feet south, 1,300 feet west of the northeast corner of sec. 15, T. 23 N., R 12 W.

Range in Characteristics

Rock fragments: 35 to 65 percent channers or gravel and 0 to 10 percent flagstone or cobble
Reaction: slightly to moderately alkaline
Clay content: 35 to 50 percent

A horizon
Hue: 10YR, 7.5YR
Value: 4 or 5 dry, 3 or 4 moist
Chroma: 3 or 4 dry, 2 or 3 moist

Bt horizon
Hue: 7.5YR, 5YR
Value: 4 or 5 dry, 3 or 4 moist
Chroma: 3 or 4, dry or moist
Texture: clay loam, clay

Some pedons do not have clay coatings and soil material in bedrock fractures.

Blind Series

Depth class: very deep
Drainage class: well drained
Permeability: moderate
Landform: hills and mountains
Parent material: alluvium and colluvium derived from mixed rock sources
Slope: 30 to 70 percent
Elevation: 3,800 to 5,800 feet
Mean annual precipitation: 9 to 12 inches
Mean annual air temperature: 59 to 64 degrees F
Frost-free period: 200 to 230 days
Classification: Loamy-skeletal, mixed, superactive, thermic Typic Haplargids

Typical Pedon

A—0 to 2 inches; dark yellowish brown (10YR 4/4) extremely cobbly sandy loam, dark brown (10YR 3/3) moist; weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; many medium tubular pores; noneffervescent; 30 percent gravel, 30 percent cobble, 10 percent stones, 1 percent boulders; slightly alkaline (pH 7.6); abrupt smooth boundary.

Bw—2 to 5 inches; dark yellowish brown (10YR 4/4) very gravelly sandy loam, dark yellowish brown (10YR 4/4) moist; weak fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many medium roots; many medium tubular pores; noneffervescent; 30 percent gravel, 5 percent cobble; violently effervescent; slightly alkaline (pH 7.6); clear wavy boundary.

Bt1—5 to 15 inches; brown (7.5YR 4/4) very gravelly sandy clay loam, brown (7.5YR 4/3) moist; moderate fine subangular blocky structure; hard, friable, slightly sticky and slightly plastic; many fine roots; common very fine tubular pores; few faint clay films on ped faces and in pores; 30 percent gravel, 5 percent cobble; noneffervescent; slightly alkaline (pH 7.8); clear wavy boundary.

Bt2—15 to 27 inches; brown (7.5YR 4/4) very cobbly sandy clay loam, brown (7.5YR 4/3) moist; moderate medium subangular blocky structure; hard, friable, sticky and plastic; common fine roots; common very fine tubular pores; few faint clay films on ped faces and in pores; 30 percent gravel, 20 percent cobble; noneffervescent; slightly alkaline (pH 7.8); clear wavy boundary.

Bt3—27 to 44 inches; brown (7.5YR 5/4) very cobbly sandy clay loam, brown (7.5YR 5/3) moist; moderate medium subangular blocky structure; hard, friable, slightly sticky and slightly plastic; few very fine roots; common very fine tubular pores; few faint clay films on ped faces and in pores; 30 percent gravel, 20 percent cobble; noneffervescent; moderately alkaline (pH 8.0); clear wavy boundary.

Bt4—44 to 60 inches; brown (7.5YR 5/4) very cobbly sandy clay loam, brown (7.5YR 4/4) moist; moderate medium subangular blocky structure; hard, friable, slightly sticky and slightly plastic; few very fine roots; common very fine tubular pores; few faint clay films on ped faces and in pores; 30 percent gravel, 20 percent cobble; noneffervescent; moderately alkaline (pH 8.0).

Type location: In an area of Fig-Blind-Nodman complex, 30 to 70 percent slopes; about 1,700 feet north and 600 feet east of the southwest corner of sec. 8, T. 22 N., R. 17 W.

Range in Characteristics

Rock fragments: 35 to 65 percent gravel and cobble; few stones and boulders on the surface
Reaction: slightly to moderately alkaline
Clay content: averages 18 to 35 percent in the control section

A and B horizons
Hue: 7.5YR, 10YR
Value: 4 or 5 dry, 3 or 4 moist
Chroma: 3 or 4, dry or moist

Bluebird Series

Depth class: very deep
Drainage class: well drained
Permeability: moderately slow
Landform: fan terraces
Parent material: alluvium derived from granite
Slope: 1 to 45 percent
Elevation: 2,840 to 5,000 feet
Mean annual precipitation: 9 to 12 inches
Mean annual air temperature: 59 to 70 degrees F
Frost-free period: 200 to 280 days
Classification: Loamy-skeletal, mixed, superactive, thermic Typic Haplargids

Typical Pedon

A—0 to 3 inches; yellowish brown (10YR 5/4) very gravelly sandy clay loam, dark yellowish brown (10YR 4/4) moist; moderate medium platy parting to moderate medium granular structure; soft, very friable, nonsticky and nonplastic; common very fine roots; common very fine irregular pores; 40 percent gravel; noneffervescent; slightly alkaline (pH 7.6); abrupt smooth boundary.

Bt—3 to 18 inches; strong brown (7.5YR 4/6) extremely gravelly sandy clay loam, reddish brown (5YR 4/4) moist; moderate medium subangular blocky structure; slightly hard, very friable, sticky and plastic; common very fine and fine roots; common very fine tubular pores; 60 percent gravel; many faint clay films on ped faces and lining pores; discontinuous pockets of strongly effervescent secondary calcium carbonate in a noneffervescent matrix; slightly alkaline (pH 7.8); clear smooth boundary.

2Bw—18 to 44 inches; strong brown (7.5YR 4/6) extremely gravelly coarse sandy loam, brown (7.5YR 4/4) moist; massive; loose, nonsticky and nonplastic; few fine and medium roots; few very fine irregular pores; 65 percent gravel; very slightly effervescent; moderately alkaline (ph 8.0); abrupt smooth boundary.

2Btkb—44 to 60 inches; strong brown (7.5YR 5/6) very gravelly sandy clay loam, strong brown (7.5YR 4/6) moist; moderately fine subangular blocky structure; slightly hard, friable, sticky and plastic; few very fine roots; common very fine tubular pores; 55 percent gravel; many thin clay films on ped faces and lining pores; calcium carbonate coatings on undersides of gravel; slightly effervescent; moderately alkaline (pH 8.2).

Type location: In an area of Detrital-Bluebird complex, 2 to 12 percent slopes; about 700 feet east and 2,400 feet south of the northwest corner of sec. 3, T. 27 N., R. 18 W.

Range in Characteristics

Rock fragments: 35 to 70 percent rock fragments in the control section and below. A surface layer containing 30 to 50 percent gravel is common.
Reaction: slightly to moderately alkaline
Clay content: averages 18 to 27 percent in the control section
Organic matter: less than 1 percent
Calcium carbonate: Typically slightly or strongly effervescent in the subsoil. Can range from noneffervescent to violently effervescent throughout.

A horizon
Hue: 7.5YR, 10YR
Value: 4 or 5 dry, 3 or 4 moist
Chroma: 3 or 4, dry or moist
Effervescence: noneffervescent to slight

Bt horizon
Hue: 5YR through 10YR
Value: 4 or 5, dry or moist
Chroma: 4 or 6, dry or moist

2Bw horizon
Hue: 5YR, 7.5YR
Value: 4 or 5 dry
Chroma: 4 through 6, dry or moist

2Btkb horizon
Hue: 5YR, 7.5YR
Value: 4 or 5, dry
Not present in all pedons.

Buckndoe Series

Depth class: deep to petrocalcic
Drainage class: well drained
Permeability: moderately rapid
Landform: fan terraces
Parent material: alluvium derived from mixed rock sources
Slope: 2 to 20 percent
Elevation: 4,600 to 5,500 feet
Mean annual precipitation: 14 to 16 inches
Mean annual air temperature: 52 to 54 degrees F
Frost-free period: 120 to 160 days
Classification: Loamy-skeletal, mixed, superactive, mesic Aridic Calciustepts

Typical Pedon

A—0 to 2 inches; yellowish brown (10YR 5/4) very gravelly sandy loam, brown (10YR 4/3) moist; weak medium platy structure parting to weak fine granular; soft, very friable, nonsticky and nonplastic; few very fine roots; common very fine irregular pores; 60 percent gravel as surface lag layer; violently effervescent; slightly alkaline (pH 7.8); abrupt smooth boundary.

Bw1—2 to 5 inches; yellowish brown (10YR 5/4) gravelly sandy loam, brown (10YR 4/3) moist; weak thick platy structure parting to weak medium subangular blocky; soft, very friable, nonsticky and nonplastic; common very fine roots; few very fine and few fine tubular pores; 30 percent gravel; violently effervescent; moderately alkaline (pH 8.0); clear smooth boundary.

Bw2—5 to 10 inches; yellowish brown (10YR 5/4) gravelly loam, dark yellowish brown (10YR 3/4) moist; moderate medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine, few fine, and few medium roots; common very fine and few fine tubular pores; 20 percent gravel; violently effervescent; slightly alkaline (pH 7.8); clear smooth boundary.

Bk1—10 to 16 inches; yellowish brown (10YR 5/4)

gravelly fine sandy loam, dark yellowish brown (10YR 3/4) moist; weak medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine, common fine, and few coarse roots; common very fine and fine tubular pores; 20 percent gravel; few thin calcium carbonate coats on underside of rock fragments; violently effervescent; slightly alkaline (pH 7.8); abrupt wavy boundary.

Bk2—16 to 26 inches; brown (10YR 5/3) very cobbly fine sandy loam, brown (10YR 4/3) moist; weak medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common fine, few medium, and few coarse roots; common very fine tubular pores; 30 percent gravel and 20 percent cobble; common thin calcium carbonate coats on ped faces and rock fragments and few coarse soft masses and concretions; violently effervescent; slightly alkaline (pH 7.8); abrupt wavy boundary.

Bk3—26 to 42 inches; pinkish white (7.5YR 8/2) very cobbly fine sandy loam, light brown (7.5YR 6/4) moist; massive; hard, friable, slightly sticky and slightly plastic; few very fine and few fine roots; few very fine tubular pores; 30 percent gravel, 30 percent cobble and hardpan fragments; common thick calcium carbonate coats on rock fragments; moderately cemented with calcium carbonate; violently effervescent; moderately alkaline (pH 8.4); abrupt wavy boundary.

Bkm—42 to 60 inches; extremely hard, laminar capped, calcium carbonate cemented hardpan.

Type location: In an area of Milkweed-Quartermaster-Buckndoe complex, 2 to 20 percent slopes; about 2,350 feet east and 1,500 feet north of the southwest corner of sec. 13, T. 26 N., R. 14 W.

Range in Characteristics

Rock fragment content: 35 to 60 percent gravel and cobble
Depth to calcic horizon: 16 to 26 inches
Calcium carbonate equivalent: 20 to 40 percent
Reaction: slightly to moderately alkaline
Depth to petrocalcic horizon: 40 to 59 inches

A horizon
Value: 4 or 5 dry, 3 or 4 moist
Chroma: 3 or 4 dry
Rock fragments: 40 to 60 percent gravel as surface lag layer

Bw horizon
Hue: 10YR, 7.5YR
Value: 3 or 4 moist
Chroma: 3 or 4, dry or moist
Texture: loam, sandy loam
Rock fragments: 20 to 35 percent, dominantly gravel

Bk horizon
Hue: 7.5YR, 10YR
Value: 5 to 8 dry, 3 to 6 moist
Chroma: 3 to 6 dry, 3 or 4 moist
Texture: loam, fine sandy loam, sandy loam
Rock fragments: 35 to 60 percent gravel and cobble

Calvista family

Depth class: very shallow and shallow to bedrock (lithic)
Drainage class: well drained
Permeability: moderate
Landform: hills and mountains
Parent material: alluvium derived from volcanic rock
Slope: 2 to 35 percent
Elevation: 3,000 to 4,800 feet
Mean annual precipitation: 9 to 12 inches
Mean annual air temperature: 62 to 68 degrees F
Frost-free period: 180 to 265 days
Classification: Loamy, mixed, superactive, thermic Lithic Haplocalcids

Typical Pedon

A—0 to 2 inches; pale brown (10YR 6/3) very gravelly loam, brown (10YR 5/3) moist; weak moderately thick platy structure parting to weak very fine subangular blocky; slightly hard, friable, slightly sticky and slightly plastic; few very fine roots; few very fine tubular and interstitial pores; 40 percent gravel; violently effervescent; moderately alkaline (pH 8.0); abrupt wavy boundary.

Bk—2 to 10 inches; light yellowish brown (10YR 6/4) cobbly loam, yellowish brown (10YR 5/4) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; few very fine roots; few very fine tubular and interstitial pores; 10 percent gravel, 20 percent cobble; violently effervescent; moderately alkaline (pH 8.0); abrupt wavy boundary.

2R—10 inches; tuff bedrock with a 1/4-inch-thick laminar calcium carbonate cap.

Type location: In an area of House Mountain family-Calvista family-Rock outcrop complex, 10 to 35 percent slopes; about 3,000 feet east and 1,500 feet north of the southeast corner of sec. 31, T. 21 N., R. 16 W.

Range in Characteristics

Use of the "Calvista family" reference term is a convention to reduce name length and implies no

specific use of a soil series, reduced mapping intensity, or range of properties beyond that which is described in the map unit description and database. Use, management, and interpretations are not affected.

Particle-size control section rock fragments: 0 to 35 percent

A and B horizons
Value: 5 or 6, dry or moist
Chroma: 3 or 4, dry or moist
Texture: loam, sandy loam, coarse sandy loam
Reaction: slightly alkaline to moderately alkaline

Caralampi family

Depth class: very deep
Drainage class: well drained
Permeability: moderate or moderately slow
Landform: fan terraces
Parent material: alluvium derived from igneous and metamorphic rock
Slope: 1 to 30 percent
Elevation: 3,800 to 4,600 feet
Mean annual precipitation: 12 to 16 inches
Mean annual air temperature: 59 to 64 degrees F
Frost-free period: 170 to 230 days
Classification: Loamy-skeletal, mixed, superactive, thermic Ustic Haplargids

Typical Pedon

A—0 to 2 inches; brown (10YR 4/3) gravelly sandy loam, dark brown (10YR 3/3) moist; weak medium platy structure parting to weak very fine subangular blocky; soft, very friable, nonsticky and nonplastic; common very fine roots; few very fine irregular pores; 25 percent gravel; noneffervescent; slightly alkaline (pH 7.6); abrupt smooth boundary.

Bw—2 to 6 inches; brown (7.5YR 4/4) gravelly sandy loam, dark brown (7.5YR 3/2) moist; weak fine and medium subangular blocky structure; soft, very friable, nonsticky and nonplastic; common very fine and fine roots; common very fine tubular pores; 30 percent gravel; noneffervescent; slightly alkaline (pH 7.6); abrupt smooth boundary.

Bt1—6 to 21 inches; red (2.5YR 4/6) gravelly sandy clay loam, reddish brown (2.5YR 4/4) moist; weak medium prismatic structure parting to moderate medium angular blocky; hard, friable, moderately sticky and moderately plastic; common very fine and fine roots; common very fine and fine tubular pores; common distinct clay films lining pores and on faces of peds; 25 percent gravel, 10 percent cobble, and 2 percent stone; noneffervescent; slightly alkaline (pH 7.6); clear wavy boundary.

Bt2—21 to 32 inches; yellowish red (5YR 4/6) very gravelly sandy clay loam, reddish brown (5YR 4/4) moist; moderate fine and medium angular blocky structure; hard, friable, slightly sticky and moderately plastic; few very fine to medium roots; common very fine tubular pores; common faint clay films lining pores and on faces of peds; 30 percent gravel, 10 percent cobble, and 2 percent stone; noneffervescent; slightly alkaline (pH 7.6); clear wavy boundary.

Bk—32 to 60 inches; yellowish brown (10YR 5/4) very cobbly sandy loam, dark yellowish brown (10YR 4/4) moist; weak coarse subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; few very fine to coarse roots; few fine to coarse tubular pores; 20 percent gravel, 15 percent cobble, and 5 percent stone; slightly effervescent; moderately alkaline (pH 8.0).

Type location: In an area of Tombstone-Caralampi-Nolam families complex, 2 to 30 percent slopes; 35 degrees, 10 minutes, 22.3 degrees north latitude; 113 degrees, 49 minutes, 29.9 seconds west longitude.

Range in Characteristics

Use of the "Caralampi family" reference term is a convention to reduce name length and implies no specific use of a soil series, reduced mapping intensity, or range of properties beyond that which is described in the map unit description and database. Use, management, and interpretations are not affected.

Rock fragments: 35 to 65 percent in the particle-size control section

A horizon
Hue: 7.5YR, 10YR
Value: 4 or 5 dry, 3 or 4 moist
Chroma: 3 or 4 dry, 2 to 4 moist

Bt horizons
Hue: 2.5YR, 5YR, 7.5YR
Value: 4 or 5, dry or moist
Chroma: 4 or 6, dry or moist
Texture: coarse sandy loam, sandy loam, sandy clay loam, clay loam
Clay content: 18 to 35 percent in the particle-size control section

Some pedons do not have Bk horizons.

Carri Series

Depth class: moderately deep to bedrock (lithic)
Drainage class: well drained
Permeability: moderate
Landform: plateaus
Parent material: alluvium derived from granite
Slope: 3 to 15 percent
Elevation: 4,800 to 5,200 feet
Mean annual precipitation: 14 to 18 inches
Mean annual air temperature: 52 to 55 degrees F
Frost-free period: 150 to 165 days
Classification: Fine-loamy, mixed, superactive, mesic Aridic Haplustalfs

Typical Pedon

A—0 to 2 inches; dark yellowish brown (10YR 4/4) sandy loam, dark brown (10YR 3/3) moist; weak fine granular structure, slightly hard, very friable, nonsticky and nonplastic; many very fine roots; many very fine tubular pores; 5 percent gravel; noneffervescent; slightly alkaline (pH 7.6); abrupt smooth boundary.

Bt1—2 to 9 inches; dark yellowish brown (10YR 4/4) loam, dark brown (7.5YR 3/4) moist; moderate fine subangular blocky structure; hard, friable, slightly sticky and slightly plastic; common very fine roots; many very fine tubular pores; few faint clay films on ped faces and lining pores; 5 percent gravel; noneffervescent; slightly alkaline (pH 7.8); clear wavy boundary.

Bt2—9 to 21 inches; strong brown and yellowish red (7.5YR 5/6 and 5YR 5/6) sandy clay loam, strong brown and yellowish red (7.5YR 4/6 and 5YR 4/6) moist; strong fine subangular blocky structure with discontinuous pockets of strong fine prismatic; very hard, friable, sticky and plastic; few very fine roots; many very fine tubular pores; common faint clay films on ped faces and lining pores; 5 percent gravel; noneffervescent with few areas of slightly effervescent; moderately alkaline (pH 8.0); clear wavy boundary.

2Bt3—21 to 27 inches; yellowish brown (10YR 5/6) sandy clay loam, yellowish brown (10YR 5/6) moist; moderate medium subangular blocky structure; very hard, friable, sticky and plastic; few very fine roots along ped faces; many very fine tubular pores; few faint clay films on ped faces and lining pores that decrease with depth; 10 percent decomposing granite gravel; noneffervescent with few small areas that are slightly effervescent; moderately alkaline (pH 8.0); abrupt smooth boundary.

2R—27 inches; granite bedrock.

Type location: In an area of Valena-Carri complex, 3 to 15 percent slopes; about 1,900 feet west and 100 feet north of the southeast corner of sec. 12, T. 23 N., R. 13 W.

Range in Characteristics

Rock fragments: Less than 15 percent
Reaction: slightly or moderately alkaline

A horizon
Hue: 7.5YR, 10YR
Value: 4 or 5 dry, 3 or 4 moist
Chroma: 3 or 4, dry or moist

Bt horizons
Hue: 7.5YR, 5YR
Value: 4 or 5 dry, 3 or 4 moist
Chroma: 4 or 6, dry or moist
Texture: loam, sandy clay loam

Carri family

Depth class: very deep
Drainage class: well drained
Permeability: moderately slow
Landform: fan terraces
Parent material: alluvium derived from granite over residuum weathered from granite
Slope: 1 to 25 percent
Elevation: 5,000 to 5,200 feet
Mean annual precipitation: 14 to 18 inches
Mean annual air temperature: 48 to 52 degrees F
Frost-free period: 135 to 150 days
Classification: Fine-loamy, mixed, superactive, mesic Aridic Haplustalfs

Typical Pedon

A—0 to 2 inches; brown (10YR 5/3) sandy loam, dark brown (10YR 3/3) moist; weak fine granular structure; slightly hard, very friable, nonsticky and nonplastic; many very fine roots; many very fine, fine and medium interstitial pores; 10 percent gravel; noneffervescent; slightly alkaline (pH 7.8); abrupt smooth boundary.

Bt—2 to 34 inches; dark brown (10YR 3/3) sandy clay loam, dark brown (10YR 3/3) moist; moderate fine subangular blocky structure; hard, friable, slightly sticky and slightly plastic; many very fine roots; common very fine tubular pores; few thin clay films on faces of peds and lining pores; 10 percent gravel; noneffervescent; slightly alkaline (pH 7.8); clear wavy boundary.

BC—34 to 44 inches; brown (10YR 4/3) gravelly coarse sandy loam, dark brown (10YR 3/3) moist; massive; hard, friable, nonsticky and nonplastic; few fine, medium and coarse roots; common very fine

tubular pores; 20 percent gravel; noneffervescent; slightly alkaline (pH 7.8); abrupt smooth boundary.

2Btb—44 to 60 inches; brown (10YR 4/3) loam, dark brown (10YR 3/3) moist; moderate fine subangular blocky structure; hard, friable, slightly sticky and slightly plastic; few very fine roots; common very fine tubular pores; 10 percent gravel; noneffervescent; slightly alkaline (pH 7.8).

Type location: In an area of Valena-Rock outcrop-Carri family complex, 1 to 25 percent slopes; about 600 feet south and 400 feet west of the northeast corner of sec. 13, T. 21 N., R. 11 W.

Range in Characteristics

Use of the "Carri family" reference term is a convention to reduce name length and implies no specific use of a soil series, reduced mapping intensity, or range of properties beyond that which is described in the map unit description and database. Use, management, and interpretations are not affected.

Rock fragments: less than 10 percent in the particle-size control section.

A horizon
Hue: 7.5YR, 10YR
Value: 5 or 6 dry, 3 to 5 moist
Chroma: 3 or 4, dry or moist

Bt horizon
Hue: 7.5YR, 10YR
Value: 3 to 6 dry, 2 to 5 moist
Chroma: 3 or 4, dry or moist
Texture: sandy clay loam, clay loam, loam

Carrizo Series

Depth class: very deep
Drainage class: excessively drained
Permeability: rapid
Landform: fan terraces, flood plains, and drainageways
Parent material: alluvium derived from mixed rock sources
Slope: 0 to 8 percent
Elevation: 650 to 2,000 feet
Mean annual precipitation: 3 to 6 inches
Mean annual air temperature: 70 to 74 degrees F
Frost-free period: 280 to 320 days
Classification: Sandy-skeletal, mixed, hyperthermic Typic Torriorthents

Typical Pedon

A—0 to 1 inch; brown (10YR 5/3) extremely gravelly loamy sand, dark grayish brown (10YR 4/2) moist; weak fine granular; slightly hard, very friable, nonsticky and nonplastic; many very fine roots; common fine tubular pores; 70 percent gravel, 5 percent cobble, and 1 percent stone; slightly effervescent; moderately alkaline (pH 8.0); abrupt smooth boundary.

C1—1 to 23 inches; brown (10YR 5/3) extremely gravelly loamy sand, brown (10YR 4/3) moist; single grain; loose, nonsticky and nonplastic; common very fine roots; common fine irregular pores; 70 percent gravel; strongly effervescent; moderately alkaline (pH 8.0); clear smooth boundary.

C2—23 to 60 inches; brown (10YR 5/3) extremely gravelly sand, brown (10YR 4/3) moist; single grain; loose, nonsticky and nonplastic; few very fine roots; many very fine irregular pores; 80 percent gravel; slightly effervescent; moderately alkaline (pH 8.2).

Type location: In an area of Carrizo-Riverwash complex, 3 to 8 percent slopes; about 2,000 feet north and 3,700 feet west of the southeast corner of sec. 33, T. 29 N., R. 22. W.

Range in Characteristics

Organic matter: less than 0.5 percent and decreases irregularly with depth
Reaction: slightly alkaline or moderately alkaline
Effervescence: slightly to strongly effervescent with disseminated calcium carbonate
Rock fragments: average 35 to 80 percent gravel, cobbles, or stones

A and C horizons
Hue: 7.5YR, 10YR
Value: 4 to 7 dry, 2 to 6 moist
Chroma: 2 to 6 dry, 2 to 4 moist
Texture: coarse sand, sand, loamy coarse sand, loamy sand

Carrwash Series

Depth class: very deep
Drainage class: excessively drained
Permeability: rapid
Landform: fan terraces
Parent material: alluvium derived from mixed rock sources
Slope: 35 to 75 percent
Elevation: 750 to 2,000 feet

Mean annual precipitation: 3 to 6 inches
Mean annual air temperature: 70 to 74 degrees F
Frost-free period: 280 to 320 days
Classification: Sandy-skeletal, mixed, hyperthermic Typic Torriorthents

Typical Pedon

A—0 to 4 inch; brown (10YR 5/3) extremely gravelly loamy sand, dark grayish brown (10YR 4/2) moist; weak fine granular; slightly hard, very friable, nonsticky and nonplastic; many very fine roots; common fine tubular pores; 70 percent gravel, 5 percent cobble, and 1 percent stone; slightly effervescent; moderately alkaline (pH 8.0); abrupt smooth boundary.

C—4 to 60 inches; brown (10YR 5/3) extremely gravelly sand, brown (10YR 4/3) moist; single grain; loose, nonsticky and nonplastic; few very fine roots; many very fine irregular pores; 80 percent gravel; slightly effervescent; moderately alkaline (pH 8.2).

Type location: In an area of Superstition family-Carrwash complex, 35 to 75 percent slopes; about 2,400 feet north and 2,800 feet west of the southeast corner of sec. 5, T. 25 N., R. 22. W.

Range in Characteristics

Organic matter: less than 0.5 percent and decreases irregularly with depth
Reaction: slightly alkaline or moderately alkaline
Effervescence: slightly to strongly effervescent with disseminated calcium carbonate
Rock fragments: average 35 to 80 percent gravel, cobbles, or stones

A and C horizons
Hue: 7.5YR, 10YR
Value: 4 to 7 dry, 2 to 6 moist
Chroma: 2 to 6 dry, 2 to 4 moist
Texture: sand, loamy coarse sand, loamy sand

Chiricahua Series

Depth class: shallow to bedrock (paralithic)
Drainage class: well drained
Permeability: slow
Landform: hills and mountains
Parent material: alluvium derived from granite
Slope: 5 to 35 percent
Elevation: 3,400 to 5,600 feet
Mean annual precipitation: 12 to 16 inches
Mean annual air temperature: 57 to 61 degrees F
Frost-free period: 180 to 210 days
Classification: Clayey, mixed, superactive, thermic, shallow Ustic Haplargids

Typical Pedon

A—0 to 1 inch; brown (10YR 5/3) very gravelly sandy loam, dark brown (10YR 3/3) moist; weak fine granular structure; slightly hard, very friable, nonsticky and nonplastic; common very fine roots; common very fine tubular pores; 40 percent gravel, 10 percent cobble; noneffervescent; neutral (pH 7.2); abrupt smooth boundary.

Bt1—1 to 6 inches; yellowish brown (10YR 5/4) sandy clay, brown (7.5YR 4/4) moist; moderate very fine subangular blocky structure; hard, firm, slightly sticky and plastic; common very fine roots; common very fine tubular pores, thin clay films on ped faces and in pores; 10 percent gravel; noneffervescent; neutral (pH 7.2); clear wavy boundary.

Bt2—6 to 14 inches; yellowish brown (10YR 5/4) sandy clay, dark yellowish brown (10YR 4/6) moist; moderate very fine subangular blocky structure; hard firm, slightly sticky and plastic; few very fine roots; common very fine tubular pores; thin clay films on ped faces and in pores; 10 percent gravel; noneffervescent; slightly alkaline (pH 7.4); abrupt smooth boundary.

Bt3—14 to 16 inches; yellowish brown (10YR 5/4) gravelly sandy clay, dark yellowish brown (10YR 4/6) moist; moderate very fine subangular blocky structure; hard, firm, slightly sticky and plastic; few very fine roots; common very fine tubular pores; thin clay films on ped faces and in pores; 30 percent gravel; noneffervescent; slightly alkaline (pH 7.4); abrupt smooth boundary.

2Cr—16 to 22 inches; slightly weathered granite.

2R—22 inches; unweathered granite.

Type location: In an area of Romero-Chiricauhua-Rock outcrop complex, 5 to 35 percent slopes; about 600 feet east and 2,400 feet south of the northwest corner of sec. 36, T. 16 N., R 15 W.

Range in Characteristics

Depth to paralithic contact: 4 to 20 inches
Depth to lithic contact: 20 to 40 inches

A horizon
Rock fragments: 35 to 70 percent gravel

Bt horizons
Texture: sandy clay, clay
Rock fragments: less than 35 percent gravel

Chuckawalla Series

Depth class: very deep
Drainage class: well drained
Permeability: moderate

Landform: fan terraces
Parent material: alluvium derived from mixed rock sources
Slope: 2 to 15 percent
Elevation: 600 to 1,800 feet
Mean annual precipitation: 3 to 6 inches
Mean annual air temperature: 70 to 74 degrees F
Frost-free period: 270 to 320 days
Classification: Loamy-skeletal, mixed, superactive, hyperthermic Typic Calciargids

Typical Pedon

E—0 to 1 inch; light brown (7.5YR 6/4) extremely gravelly silt loam, brown (7.5YR 4/4) moist; moderate medium platy structure; slightly hard, friable, slightly sticky and slightly plastic; few fine roots; many fine vesicular pores; 75 percent gravel, 15 percent cobble; strongly effervescent; slightly alkaline (pH 7.6); abrupt smooth boundary.

Btz—1 to 5 inches; reddish brown (5YR 5/3) gravelly loam, reddish brown (5YR 4/3) moist; weak fine subangular blocky structure; slightly sticky and slightly plastic; few fine roots; few fine irregular pores; common thin clay films on faces of peds; few fine salt crystals; 25 percent gravel; strongly effervescent; slightly alkaline (pH 7.8); abrupt smooth boundary.

Btkz—5 to 20 inches; brown (7.5YR 5/4) very gravelly loam, brown (7.5YR 4/4) moist; weak fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few fine roots; few fine irregular pores; few thin clay films on faces of peds; few fine salt crystals; 55 percent gravel; violently effervescent; common fine soft calcium carbonate masses; moderately alkaline (pH 7.8); clear wavy boundary.

Ck1—20 to 29 inches; light brown (7.5YR 6/4) extremely gravelly loamy sand, brown (7.5YR 5/4) moist; massive; slightly hard; friable, nonsticky and nonplastic; few fine irregular pores; 70 percent gravel; violently effervescent, moderately alkaline (pH 8.0); abrupt wavy boundary.

Ck2—29 to 34 inches; pink (7.5YR 8/3) very gravelly sandy loam, pink (7.5YR 7/3) moist; massive; hard, firm, nonsticky and nonplastic; few fine irregular pores; 55 percent gravel; common fine soft calcium carbonate masses; violently effervescent; moderately alkaline (pH 8.0); abrupt wavy boundary.

Ck3—34 to 60 inches; light brown (7.5YR 6/3) very gravelly loamy sand, light brown (7.5YR 6/3) moist; massive; hard, firm, nonsticky and nonplastic; few fine irregular pores; 55 percent gravel; many large soft calcium carbonate masses, strongly effervescent; moderately alkaline (pH 8.0).

Type location: In an area of Chuckwalla-Riverbend complex, 2 to 15 percent slopes; about 500 feet east and 1,500 feet south of the northwest corner of sec. 4, T. 18 N., R. 21 W.

Range in Characteristics

Salinity: slight to strong
Average content of rock fragments in the control section: 35 to 60 percent
Calcium carbonate: greater than 15 percent

E horizon
Hue: 7.5YR, 10YR
Value: 6 or 7 dry, 4 or 5 moist
Chroma: 3 or 4, dry or moist

Btz horizon
Hue: 5YR, 7.5YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 3 or 4, dry or moist

Ck horizons
Hue: 5YR, 7.5YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 3 or 4, dry or moist
Texture: loamy sand, sandy loam

Circular Series

Depth class: very deep
Drainage class: somewhat excessively drained
Permeability: moderately rapid
Landform: basin floors and fan terraces
Parent material: alluvium derived from mixed rock sources
Slope: 1 to 4 percent
Elevation: 2,500 to 4,000 feet
Mean annual precipitation: 9 to 12 inches
Mean annual air temperature: 57 to 70 degrees F
Frost-free period: 180 to 280 days
Classification: Coarse-loamy, mixed, superactive, calcareous, thermic Typic Torriorthents

Typical Pedon

A—0 to 2 inches; yellowish brown (10YR 5/4) sandy loam, brown (10YR 4/3) moist; weak fine granular structure; soft, very friable, nonsticky and nonplastic; few very fine roots; few very fine and fine irregular pores; 1 percent gravel; strongly effervescent, 5 percent calcium carbonate equivalent; moderately alkaline (pH 8.4); abrupt smooth boundary.

C1—2 to 35 inches; yellowish brown (10YR 5/4) sandy loam, dark yellowish brown (10YR 4/4) moist; massive; slightly hard, very friable, nonsticky and nonplastic; common fine and medium roots; common very fine and fine tubular pores; few animal burrows;

violently effervescent, 10 percent calcium carbonate equivalent; moderately alkaline (pH 8.4); clear wavy boundary.

C2—35 to 44 inches; yellowish brown (10YR 5/4) sandy loam, dark yellowish brown (10YR 4/4) moist; massive; slightly hard, very friable, nonsticky and nonplastic; common fine and medium roots; common very fine and fine tubular pores; 5 percent gravel; violently effervescent, 7 percent calcium carbonate equivalent; strongly alkaline (pH 8.6); abrupt smooth boundary.

C3—44 to 60 inches; yellowish brown (10YR 5/4) loamy sand, brown (7.5YR 4/4) moist; massive; slightly hard, very friable, nonsticky and nonplastic; common fine and medium roots; common very fine and fine irregular pores; 10 percent gravel; strongly effervescent, 8 percent calcium carbonate equivalent; moderately alkaline (pH 8.4).

Type location: In an area of Circular-Dusty complex, 0 to 4 percent slopes; about 700 feet north and 800 feet west of the southeast corner of sec. 14, T. 26 N., R. 16 W.

Range in Characteristics

Reaction: moderately or strongly alkaline
Clay content in control section: 5 to 18 percent
Rock fragments: less than 15 percent
Organic matter: less than 1 percent
Texture below 40 inches: loamy sand, sandy loam

A horizon
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 3 or 4, dry or moist

C horizons
Hue: 10YR, 7.5YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 3 or 4, dry or moist
Reaction: moderately or strongly alkaline

Cod Series

Depth class: very deep
Drainage class: well drained
Permeability: moderately rapid
Landform: fan terraces
Parent material: alluvium derived from limestone and granite
Slope: 2 to 6 percent
Elevation: 2,600 to 2,800 feet
Mean annual precipitation: 9 to 12 inches
Mean annual air temperature: 57 to 70 degrees F
Frost-free period: 200 to 280 days
Classification: Coarse-loamy, mixed, superactive, thermic Durinodic Haplocalcids

Typical Pedon

A—0 to 2 inches; yellowish brown (10YR 5/4) gravelly sandy loam, dark yellowish brown (10YR 4/4) moist; weak fine granular structure; soft, very friable, nonsticky and nonplastic; common very fine roots; common very fine and fine irregular pores; 20 percent gravel; strongly effervescent, 6 percent calcium carbonate equivalent; moderately alkaline (pH 8.0); abrupt smooth boundary.

Bw—2 to 14 inches; yellowish brown (10YR 5/4) gravelly sandy loam, yellowish brown (10YR 5/4) moist; weak fine subangular blocky structure; slightly hard, very friable; nonsticky and nonplastic; common very fine and medium roots; common very fine and fine tubular pores; 20 percent gravel; violently effervescent, 9 percent calcium carbonate equivalent; moderately alkaline (pH 8.2); clear wavy boundary.

Bkq—14 to 20 inches; light yellowish brown (10YR 6/4) gravelly sandy loam, light yellowish brown (10YR 6/4) moist; moderate medium subangular blocky structure; hard, friable, nonsticky and nonplastic; few very fine roots; common very fine tubular pores; 30 percent gravel; violently effervescent, 26 percent calcium carbonate equivalent; 30 percent irregularly shaped calcium carbonate and silica-cemented durinodes and brittle plate like masses; moderately alkaline (pH 8.4); clear wavy boundary.

Bk1—20 to 48 inches; light yellowish brown (10YR 6/4) gravelly sandy loam, light yellowish brown (10YR 6/4) moist; moderate medium subangular blocky structure; hard, friable, slightly sticky and nonplastic; few very fine roots; common very fine tubular pores; 30 percent gravel; weakly cemented; violently effervescent, 30 percent calcium carbonate equivalent, common fine soft calcium carbonate masses; moderately alkaline (pH 8.4); clear wavy boundary.

Bk2—48 to 60 inches; light yellowish brown (10YR 6/4) very gravelly sandy loam, light yellowish brown (10YR 6/4) moist; moderate medium subangular blocky structure; hard, friable, slightly sticky and nonplastic; few very fine roots; common very fine tubular pores; 40 percent gravel; weakly cemented; violently effervescent, 25 percent calcium carbonate equivalent; strongly alkaline (pH 8.6).

Type location: In an area of Cod gravelly sandy loam, 2 to 6 percent slopes; about 2,000 feet east and 1,300 feet north of the southwest corner of sec. 24, T. 31 N., R. 17 W.

Range in Characteristics

Reaction: slightly to strongly alkaline
Depth to calcic horizon: 12 to 26 inches
Depth to Bkq horizon: 12 to 26 inches
Particle-size control section:
Clay content: 7 to 18 percent
Rock fragments: 15 to 35 percent gravel

A horizon
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 3 or 4, dry or moist
Effervescence: slight or strong
Reaction: slightly to moderately alkaline

Bw horizon
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 3 or 4, dry or moist
Reaction: slightly to moderately alkaline

Bkq horizon
Value: 5 or 6, dry or moist
Chroma: 3 or 4, dry or moist
Reaction: slightly to moderately alkaline

Bk horizons
Value: 5 or 6, dry or moist
Chroma: 3 or 4, dry or moist
Reaction: slightly to strongly alkaline

Cordes Taxadjunct

Depth class: very deep
Drainage class: well drained
Permeability: moderately rapid
Landform: flood plains
Parent material: alluvium derived from mixed rock sources
Slope: 1 to 6 percent
Elevation: 5,000 to 5,200 feet
Mean annual precipitation: 14 to 18 inches
Mean annual air temperature: 48 to 52 degrees F
Frost-free period: 135 to 150 days
Classification: Coarse-loamy, mixed, superactive, nonacid, mesic Ustic Torrifluvents

Typical Pedon

A—0 to 2 inches; brown (10YR 4/3) sandy loam, very dark grayish brown (10YR 3/2) moist; weak fine granular structure; slightly hard, very friable, nonsticky and nonplastic; common very fine and fine roots; many very fine interstitial pores; 10 percent gravel; noneffervescent; neutral (pH 7.2); abrupt smooth boundary.

C1—2 to 32 inches; dark yellowish brown (10YR 4/4) sandy loam, very dark grayish brown (10YR 3/2) moist; massive, slightly hard, very friable, nonsticky and nonplastic; common very fine and fine roots; common very fine tubular pores; 10 percent gravel; noneffervescent, neutral (pH 7.2); abrupt smooth boundary.

C2—32 to 60 inches; brown (10YR 4/3) very gravelly sand, dark yellowish brown (10YR 4/4) moist; single grain; loose, nonsticky and nonplastic; few very fine and fine roots; many very fine irregular pores; 35 percent gravel; noneffervescent; neutral (pH 7.2).

Type location: In an area of Cordes-Manikan-Riverwash complex, 1 to 6 percent slopes; about 650 feet north and 150 east of the southeast corner of sec. 5, T. 21 N., R. 11 W.

Range in Characteristics

These soils are a taxadjunct to the Cordes series. They have an aridic ustic soil moisture regime.

Clay content: Averages less than 18 percent in the particle-size control section

A horizon
Hue: 7.5YR, 10YR
Value: 3 or 4, dry or moist
Chroma: 2 or 3, dry or moist

C horizons
Hue: 7.5YR, 10YR
Value: 3 or 4, dry or moist
Chroma: 2 to 4, dry or moist
Texture: sandy loam, loam, sandy clay loam, sand

These soils lack the organic carbon content to qualify for a mollic epipedon.

Courtland family

Depth class: moderately deep or very deep to bedrock (lithic)
Drainage class: well drained
Permeability: moderately slow
Landform: fan terraces
Parent material: alluvium derived from igneous and metamorphic rock
Slope: 1 to 20 percent
Elevation: 3,900 to 4850 feet
Mean annual precipitation: 12 to 16 inches
Mean annual air temperature: 59 to 64 degrees F
Frost-free period: 170 to 230 days
Classification: Fine-loamy, mixed, superactive, thermic Ustic Haplargids

Typical Pedon

A—0 to 1 inch; brown (7.5YR 5/3) gravelly sandy

loam, brown (7.5YR 4/3) moist; weak very fine and fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; common very fine and fine roots; 20 percent gravel; noneffervescent; neutral (pH 6.6); abrupt smooth boundary.

Bt1—1 to 14 inches; brown (7.5YR 4/4) gravelly sandy clay loam, dark brown (7.5YR 3/3) moist; moderate fine and medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine and fine and few medium roots; common very fine and fine tubular pores; common faint clay films bridging sand grains, few faint clay films on faces of peds; 15 percent gravel; noneffervescent; neutral (pH 7.2); clear wavy boundary.

Bt2—14 to 19 inches; brown (7.5YR 4/4) clay loam, dark brown (7.5YR 3/4) moist; strong fine and medium subangular blocky structure; hard, friable, moderately sticky and moderately plastic; many fine and medium and few coarse roots; common very fine and few fine tubular pores; common faint clay films on faces of peds; 10 percent gravel; noneffervescent; moderately acid (pH 5.8); clear wavy boundary.

Bt3—19 to 29 inches; reddish brown (5YR 4/4) clay loam, reddish brown (5YR 4/4) moist; moderate coarse prismatic structure parting to strong medium subangular blocky; hard, firm, moderately sticky and moderately plastic; few fine and medium roots; few very fine and fine tubular pores; many faint and few distinct clay films on faces of peds; 5 percent gravel; noneffervescent; moderately acid (pH 6.0); abrupt wavy boundary.

2R—29 inches; hard granite bedrock.

Type location: In an area of Nodman-Courtland family complex, 2 to 20 percent slopes; 35 degrees, 18 minutes, 42.2 seconds north latitude, 113 degrees, 45 minutes, 0.1 seconds west longitude.

Range in Characteristics

Use of the "Courtland family" reference term is a convention to reduce name length and implies no specific use of a soil series, reduced mapping intensity, or range of properties beyond that which is described in the map unit description and database. Use, management, and interpretations are not affected.

Rock fragments: less than 35 percent in the particle-size control section
Reaction: slightly acid to moderately alkaline

A horizon
Hue: 7.5YR, 10YR
Value: 4 to 6 dry, 3 or 4 moist
Chroma: 3 or 4, dry or moist

Bt horizons
Hue: 5YR, 7.5YR
Value: 4 to 6 dry, 3 to 5 moist
Chroma: 3 to 6, dry or moist
Texture: sandy clay loam, clay, clay loam
Clay content: 27 to 35 percent within the particle-size control section

Some pedons have Btq and/or Btkq horizons that do not meet the silica cementation criteria for a duripan.

Some pedons have Btk horizons.

Cupel Series

Depth class: shallow to bedrock (lithic)
Drainage class: well drained
Permeability: moderate
Landform: hills and mountains
Parent material: alluvium and colluvium derived from volcanic rock
Slope: 35 to 65 percent
Elevation: 3,500 to 4,500 feet
Mean annual precipitation: 9 to 12 inches
Mean annual air temperature: 59 to 64 degrees F
Frost-free period: 200 to 280 days
Classification: Loamy-skeletal, mixed, superactive, thermic Lithic Haplocambids

Typical Pedon

A—0 to 2 inches; yellowish brown (10YR 5/4) very gravelly sandy loam, dark yellowish brown (10YR 4/4) moist; moderate fine granular structure; soft, very friable, nonsticky and nonplastic; common very fine roots; few very fine irregular pores; 35 percent gravel, 15 percent cobble; noneffervescent; slightly alkaline (pH 7.6); abrupt smooth boundary.

Bw1—2 to 12 inches; yellowish brown (10YR 5/4) extremely gravelly sandy clay loam, dark yellowish brown (10YR 4/4) moist; weak fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common very fine and fine roots; common very fine irregular pores; 50 percent gravel, 20 percent cobble; noneffervescent; slightly alkaline (pH 7.6); clear wavy boundary.

Bw2—12 to 17 inches; yellowish brown (10YR 5/4) extremely gravelly sandy clay loam, dark yellowish brown (10YR 4/4) moist; weak fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; few fine and medium roots; common fine irregular pores; 50 percent gravel, 20 percent cobble; strongly effervescent; slightly alkaline (pH 7.8).

2R—17 inches; rhyolite.

Type location: In an area of Cupel-Rock outcrop complex, 35 to 65 percent slopes; about 400 feet west and 4,100 feet south of the northeast corner of sec. 16, T. 23 N., R. 20 W.

Range in Characteristics

Rock fragments: 35 to 70 percent gravel and 5 to 20 percent cobble
Reaction: slightly or moderately alkaline
Clay content: averages 20 to 27 percent in the particle-size control section

A horizon
Hue: 7.5YR, 10YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 4 or 5, dry or moist

B horizons
Hue: 7.5YR, 10YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 4 or 5, dry or moist
Texture: clay loam, sandy clay loam

Cyclopic Series

Depth class: moderately deep to duripan
Drainage class: well drained
Permeability: slow
Landform: fan terraces
Parent material: alluvium derived from granite and basalt
Slope: 3 to 12 percent
Elevation: 3,200 to 4,200 feet
Mean annual precipitation: 9 to 12 inches
Mean annual air temperature: 57 to 70 degrees F
Frost-free period: 200 to 280 days
Classification: Clayey-skeletal, smectitic, thermic Typic Argidurids

Typical Pedon

A—0 to 2 inches; dark yellowish brown (10YR 4/4) very gravelly sandy loam, brown (10YR 4/3) moist; weak fine granular structure; slightly hard, very friable, nonsticky and nonplastic; many very fine roots; many very fine irregular pores; 40 percent gravel; 10 percent cobble; slightly effervescent, 3 percent calcium carbonate equivalent; slightly alkaline (pH 7.8); abrupt smooth boundary.

Bt1—2 to 5 inches; reddish brown (5YR 4/4) extremely gravelly clay loam, brown (10YR 4/3) moist; weak fine subangular blocky structure; hard, friable, slightly sticky and slightly plastic; many very fine roots; many very fine tubular pores; few distinct clay films on ped faces and in pores; 50 percent gravel, 10 percent cobble, 10 percent stone; slightly effervescent, 3 percent calcium carbonate equivalent; slightly alkaline (pH 7.8); clear wavy boundary.

Bt2—5 to 16 inches; strong brown (7.5YR 4/6) extremely gravelly clay, brown (7.5YR 5/4) moist; strong fine prismatic parting to strong fine and medium angular blocky structure; very hard, very firm, very sticky and very plastic; many very fine roots; common very fine tubular pores; common distinct clay films on ped faces and in pores; 50 percent gravel, 10 percent cobble, 10 percent stone; slightly effervescent, 4 percent calcium carbonate equivalent; moderately alkaline (pH 8.0); abrupt smooth boundary.

Btk—16 to 26 inches; strong brown (7.5YR 4/6) very stony clay, brown (7.5YR 5/4) moist; moderate fine subangular blocky structure; very hard, very firm, very sticky and very plastic; common very fine roots; common very fine tubular pores; common prominent clay films on ped faces and in pores; 30 percent gravel, 10 percent cobble, 10 percent stone; slightly effervescent, 5 percent calcium carbonate equivalent; few rounded calcium carbonate masses; moderately alkaline (pH 8.0); abrupt smooth boundary.

2Bkqm—26 to 60 inches; silica and calcium carbonate cemented hardpan.

Type location: In an area of Greyeagle family-Cyclopic complex, 3 to 12 percent slopes; about 1,600 feet west, 2,200 feet south of the northeast corner section 19, T. 29 N., R. 16 W.

Range in Characteristics

Thickness of hardpan: 40 to greater than 60 inches
Rock fragments: 35 to 75 percent gravel, cobble, and stone
Organic matter content: less than 1 percent
Clay content in the argillic horizon: averages 35 to 55 percent
Calcium carbonate equivalent: 5 percent or less

A horizon
Hue: 10YR, 7.5YR
Value: 4 or 5 dry, 3 or 4 moist
Chroma: 3 to 6 dry, 3 or 4 moist

Bt1 horizon
Hue: 10YR, 7.5YR
Value: 4 or 5 dry, 3 or 4 moist
Chroma: 3 to 6 dry, 3 or 4 moist

Bt2 horizon
Hue: 7.5YR, 5YR
Value: 4 or 5 dry, 3 or 4 moist

Chroma: 3 to 6, dry or moist

Btk horizon
Hue: 7.5YR, 5YR
Value: 4 or 5 dry, 3 or 4 moist
Chroma: 3 to 6, dry or moist
Calcium carbonate segregations: none to few soft masses

Dean Series

Depth class: very deep
Drainage class: well drained
Permeability: moderate
Landform: fan terraces
Parent material: alluvium derived from limestone
Slope: 2 to 20 percent
Elevation: 4,500 to 5,200 feet
Mean annual precipitation: 10 to 14 inches
Mean annual air temperature: 52 to 55 degrees F
Frost-free period: 135 to 175 days
Classification: Fine-loamy, carbonatic, mesic Ustic Haplocalcids

Typical Pedon

A—0 to 2 inches; brown (10YR 5/3) extremely gravelly loam, dark brown (10YR 3/3) moist; weak moderately thick platy structure parting to weak fine granular; soft, very friable, slightly sticky and slightly plastic; common very fine roots; many very fine irregular pores; 85 percent gravel; violently effervescent; slightly alkaline (pH 7.7); abrupt smooth boundary.

Bw—2 to 6 inches; yellowish brown (10YR 5/4) gravelly loam, brown (10YR 4/3) moist; moderate medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine and few fine roots; few very fine tubular pores; 25 percent gravel; violently effervescent; slightly alkaline (pH 7.7); clear smooth boundary.

Bk1—6 to 16 inches; yellowish brown (10YR 5/4) gravelly loam, brown (10YR 5/3) moist; moderate medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and fine roots and few medium and coarse roots; common very fine tubular pores; 25 percent gravel; common fine soft calcium carbonate masses and thin coatings underneath rock fragments; violently effervescent, 36 percent calcium carbonate equivalent; slightly alkaline (pH 7.7); clear wavy boundary.

Bk2—16 to 21 inches; yellowish brown (10YR 5/4) very gravelly loam, dark yellowish brown (10YR 4/4) moist; weak medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine roots, common fine and medium roots, and few coarse roots; common very fine tubular pores; 30 percent gravel, 5 percent cobble; few thin calcium carbonate coatings on faces of peds and common thin pendants under rock fragments; violently effervescent, 39 percent calcium carbonate equivalent; slightly alkaline (pH 7.7); abrupt wavy boundary.

Bk3—21 to 28 inches; yellowish brown (10YR 5/4) gravelly loam, dark yellowish brown (10YR 4/4) moist; moderate medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and fine roots; common very fine tubular pores; common fine soft calcium carbonate masses and thin coatings and pendants on rock fragments; violently effervescent, 40 percent calcium carbonate equivalent; slightly alkaline (pH 7.7); abrupt wavy boundary.

2Bk4—28 to 60 inches; light brown (7.5YR 6/4) and pinkish white (5YR 8/2) gravelly loam, brown (7.5YR 5/3) and pinkish white (7.5YR 8/2) moist; massive; hard, friable, slightly sticky and slightly plastic; common very fine roots; few very fine tubular pores; 25 percent gravel and hardpan fragments; weakly cemented with calcium carbonate; violently effervescent, 62 percent calcium carbonate equivalent; moderately alkaline (pH 7.9).

Type location: In an area of Rolie-Dean complex, 2 to 20 percent slopes; about 1,500 feet west and 1,850 feet south of the northeast corner of sec. 18, T. 26 N., R. 12 W.

Range in Characteristics

Depth to calcic horizon: 6 to 20 inches
Control section calcium carbonate content: 40 to 60 percent

B horizons
Texture: fine sandy loam, loam
Clay content: 15 to 30 percent, averaging more than 18 percent

Deluge Series

Depth class: moderately deep to duripan
Drainage class: well drained
Permeability: moderately slow
Landform: fan terraces
Parent material: alluvium derived from mixed rock sources
Slope: 3 to 7 percent
Elevation: 2,200 to 2,700 feet
Mean annual precipitation: 9 to 12 inches
Mean annual air temperature: 63 to 70 degrees F

Frost-free period: 200 to 280 days
Classification: Loamy-skeletal, mixed, superactive, thermic Typic Argidurids

Typical Pedon

A—0 to 2 inches; yellowish brown (10YR 5/6) very gravelly sandy loam, brown (7.5YR 4/4) moist; moderate fine granular structure; soft, very friable, nonsticky and nonplastic; few very fine roots; common very fine irregular pores; 52 percent gravel; slightly effervescent; slightly alkaline (pH 7.6); abrupt smooth boundary.

Bt1—2 to 8 inches; strong brown (7.5YR 5/6) very gravelly sandy clay loam, brown (7.5YR 4/4) moist; weak fine subangular blocky structure; hard, firm, sticky and plastic; common very fine and fine roots; few very fine tubular pores; 45 percent gravel; strongly effervescent; slightly alkaline (pH 7.8); clear wavy boundary.

Bt2—8 to 18 inches; strong brown (7.5YR 5/6) very gravelly sandy clay loam, brown (7.5YR 4/4) moist; weak fine subangular blocky structure; hard, firm, sticky and plastic; common very fine and fine tubular pores; 40 percent gravel; strongly effervescent; slightly alkaline (pH 7.8); clear wavy boundary.

Btk—18 to 24 inches; brown (7.5YR 4/4) very gravelly sandy clay loam, brown (7.5YR 4/4) moist; weak very fine subangular blocky structure; slightly hard, friable, sticky and plastic; few very fine tubular pores; 40 percent gravel; violently effervescent, few fine soft calcium carbonate masses, distinct pendants on undersides of most rock fragments; slightly alkaline (pH 7.8); abrupt smooth boundary.

2Bkqm—24 to 52 inches; pinkish white (7.5YR 8/2) indurated silica-cemented hardpan.

3R—52 inches; conglomerate.

Type location: In an area of Deluge-Gotchell-Sunstroke complex, 3 to 7 percent slopes; about 700 feet south and 200 feet east of the northwest corner of sec. 27, T. 29 N., R. 18 W.

Range in Characteristics

Rock fragments: 35 to 70 percent
Organic matter content: less than 1 percent
Reaction: slightly or moderately alkaline
Calcium carbonate equivalent: 5 to 15 percent
Clay content: 20 to 35 percent

A horizon
Hue: 7.5YR, 10YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 4 to 6, dry or moist
Effervescence: slight to strong

Bt horizons
Hue: 7.5YR, 10YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 4 to 6, dry or moist
Texture: sandy clay loam, clay loam
Effervescence: slight to strong

Detrital Series

Depth class: very deep
Drainage class: somewhat excessively drained
Permeability: moderately rapid
Landform: fan terraces
Parent material: alluvium derived from mixed rock sources
Slope: 1 to 45 percent
Elevation: 1,600 to 4,500 feet
Mean annual precipitation: 6 to 12 inches
Mean annual air temperature: 59 to 70 degrees F
Frost-free period: 180 to 280 days
Classification: Loamy-skeletal, mixed, superactive, thermic Typic Haplocambids

Typical Pedon

A—0 to 1 inch; yellowish brown (10YR 5/4) gravelly sandy loam, dark yellowish brown (10YR 4/4) moist; weak thin platy structure; soft, very friable, nonsticky and nonplastic; common very fine roots; few very fine pores; 30 percent gravel; noneffervescent; slightly alkaline (pH 7.8); abrupt smooth boundary.

Bw1—1 to 13 inches; brown (7.5YR 5/4) gravelly sandy loam, brown (7.5YR 4/4) moist: moderate fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; common very fine roots; common very fine interstitial pores; 30 percent gravel; noneffervescent, moderately alkaline (pH 7.9); clear smooth boundary.

Bw2—13 to 26 inches; brown (7.5YR 5/4) very gravelly sandy loam, brown (7.5YR 4/4) moist; weak fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; common fine roots; common very fine interstitial pores; 40 percent gravel; strongly effervescent, 3 percent calcium carbonate equivalent; moderately alkaline (pH 8.0); clear wavy boundary.

Bw3—26 to 60 inches; brown (7.5YR 5/4) extremely gravelly sandy loam, brown (7.5YR 4/4) moist; weak fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; few fine roots; common very fine interstitial pores; 60 percent gravel; strongly effervescent, 3 percent calcium carbonate equivalent; moderately alkaline (pH 8.0).

Type location: In an area of Detrital-Nickel complex,

1 to 4 percent slopes; about 2,600 feet south and 1,320 feet east of the northwest corner of sec. 28, T. 24 N., R. 20 W.

Range in Characteristics

Rock fragments: 35 to 60 percent gravel. A surface gravel layer is common, ranging from 10 to 75 percent gravel.
Reaction: slightly to moderately alkaline
Calcium carbonate: Commonly noneffervescent to strongly effervescent in the surface layer, slightly effervescent to violently effervescent in the subsoil. Calcium carbonate equivalent ranges from 3 to 14 percent.
Clay content: ranges from 5 to 20 percent; averages less than 18 percent in the particle-size control section

A horizon
Hue: 7.5YR, 10YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 3 or 4, dry or moist

B horizons
Hue: 7.5YR, 10YR
Value: 4 to 6 dry, 3 to 5 moist
Chroma: 3 or 4, dry or moist
Texture: sandy loam, loamy sand

Dusty Series

Depth class: very deep
Drainage class: well drained
Permeability: very slow
Landform: basin floors
Parent material: alluvium derived from mixed rock sources
Slope: 0 to 6 percent
Elevation: 2,700 to 3,400 feet
Mean annual precipitation: 9 to 12 inches
Mean annual air temperature: 57 to 70 degrees F
Frost-free period: 200 to 280 days
Classification: Fine-loamy, mixed, superactive, thermic Typic Natrargids

Typical Pedon

A—0 to 2 inches; yellowish brown (10YR 5/4) sandy loam, dark yellowish brown (10YR 4/4) moist; weak thin platy structure; slightly hard, very friable, nonsticky and slightly plastic; common very fine roots; many fine and medium irregular pores; 1 percent fine gravel; slightly effervescent, 2 percent calcium carbonate equivalent; moderately alkaline (pH 8.0); abrupt smooth boundary.

Bt—2 to 4 inches; brown (7.5YR 5/4) loam, dark yellowish brown (10YR 4/4) moist; moderate very fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine roots; common very fine and fine tubular pores; few faint clay films on ped faces and in pores; 1 percent fine gravel; slightly effervescent, 3 percent calcium carbonate equivalent; moderately alkaline (pH 8.2); clear wavy boundary.

Btkn—4 to 20 inches; brown (7.5YR 5/4) clay loam with discontinuous areas of coarser textures, yellowish brown (10YR 5/4) moist; moderate fine and medium prismatic structure parting to strong medium angular blocky; very hard, firm, sticky and plastic; few very fine roots; common very fine and fine tubular pores; few faint clay films on ped faces and in pores; 1 percent fine gravel; violently effervescent, many coarse soft calcium carbonate masses, 16 percent calcium carbonate equivalent; strongly alkaline (pH 9.0); clear wavy boundary.

Bkz1—20 to 35 inches; pale brown (10YR 6/3) sandy clay loam, yellowish brown (10YR 5/4) moist; moderate thin platy structure parting to moderate very fine subangular blocky; hard, firm, slightly sticky and slightly plastic; few very fine roots; many fine and medium tubular pores; 1 percent fine gravel; slightly saline (ECe 6 dS/m); violently effervescent, few fine soft masses of calcium carbonate, 16 percent calcium carbonate equivalent; moderately alkaline (pH 8.0); clear wavy boundary.

Bkz2—35 to 60 inches; pale brown (10YR 6/3) loam, yellowish brown (10YR 5/4) moist; massive; very hard with occasional areas that are hard, friable, slightly sticky and slightly plastic; few very fine roots; many fine and medium tubular pores; 1 percent fine gravel; slightly saline (ECe 5 dS/m); violently effervescent, 19 percent calcium carbonate equivalent; moderately alkaline (pH 8.4).

Type location: In an area of Circular-Dusty complex, 0 to 4 percent slopes; about 600 feet west and 800 feet north of the southeast corner of sec. 14, T. 26 N., R. 16 W.

Range in Characteristics

Rock fragments: less than 15 percent
Organic matter: less than 1 percent
Depth to calcic horizon: 3 to 12 inches

A horizon
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 3 or 4, dry or moist

Bt horizon
Hue: 7.5YR, 10YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 3 or 4, dry or moist

Texture: sandy clay loam, loam, discontinuous areas of coarser material
Electrical conductivity: less than 2 dS/m

Btkn horizon
Hue: 7.5YR, 10YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 3 or 4, dry or moist
Textures: loam, clay loam
Electrical conductivity: 0 to 8 dS/m
Reaction: strongly or very strongly alkaline
SAR: assumed to be greater than 13

Bkz horizons
Hue: 7.5YR, 10YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 3 or 4, dry or moist
Textures: clay loam, loam, sandy clay loam
Electrical conductivity: 2 to 8 dS/m

Dutchflat Series

Depth class: very deep
Drainage class: well drained
Permeability: moderate
Landform: fan terraces
Parent material: alluvium derived from igneous and metamorphic rock
Slope: 0 to 12 percent
Elevation: 2,800 to 4,800 feet
Mean annual precipitation: 9 to 12 inches
Mean annual air temperature: 59 to 68 degrees F
Frost-free period: 200 to 250 days
Classification: Fine-loamy, mixed, superactive, thermic Typic Haplargids

Typical Pedon

A—0 to 3 inches; brown (10YR 5/3) sandy loam, brown (10YR 4/3) moist; weak fine granular structure; soft, very friable, nonsticky and nonplastic; many very fine roots; common fine tubular pores; 10 percent gravel; noneffervescent; slightly alkaline (pH 7.4); abrupt smooth boundary.

Bw—3 to 7 inches; yellowish brown (10YR 5/4) sandy loam, brown (10YR 4/3) moist; weak fine subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; common very fine roots; few very fine tubular pores; 10 percent gravel; noneffervescent; slightly alkaline (pH 7.6); clear smooth boundary.

Bt—7 to 24 inches; brown (7.5YR 5/4) gravelly sandy clay loam, brown (7.5YR 4/4) moist; weak fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; few very fine roots; few very fine tubular pores; few faint clay films on ped faces and in pores; 20 percent gravel; noneffervescent; slightly alkaline (pH 7.6); clear smooth boundary.

Bk1—24 to 39 inches; brown (7.5YR 5/4) gravelly sandy loam, brown (7.5YR 4/4) moist; weak fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; few very fine roots; few very fine tubular pores; 30 percent gravel; strongly effervescent; moderately alkaline (pH 8.0), clear wavy boundary.

Bk2—39 to 60 inches; brown (7.5YR 5/4) very gravelly loamy sand, brown (7.5YR 4/4) moist; weak fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; few very fine roots; few very fine tubular pores; 45 percent gravel; strongly effervescent; moderately alkaline (pH 8.0).

Type location: In an area of Filaree-Dutchflat complex, 2 to 6 percent slopes; about 200 feet north and 350 feet east of the southwest corner of sec. 16, T. 24 N., R. 16 W.

Range in Characteristics

Depth to calcium carbonate: more than 5 inches; commonly 20 to 31 inches
Rock fragments: average less than 35 percent in the control section

A horizon
Hue: 10YR, 7.5YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 3 or 4, dry or moist

Bt horizon
Hue: 10YR, 7.5YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 3 or 4, dry or moist
Texture: sandy clay loam, clay loam
Rock fragments: 15 to 35 percent

Bk horizons
Hue: 10YR, 7.5YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 3 or 4, dry or moist
Calcium carbonate equivalent: 5 to 10 percent
Rock fragments: 15 to 60 percent gravel

Dye Taxadjunct

Depth class: shallow to bedrock (lithic)
Drainage class: well drained
Permeability: slow
Landform: hills
Parent material: alluvium derived from limestone over residuum weathered from limestone
Slope: 6 to 25 percent
Elevation: 5,000 to 5,800 feet

Mean annual precipitation: 14 to 18 inches
Mean annual air temperature: 48 to 52 degrees F
Frost-free period: 135 to 150 days
Classification: Clayey, smectitic, mesic Lithic Haplustalfs

Typical Pedon

A—0 to 2 inches; brown (10YR 5/3) very channery clay loam, dark brown (10YR 3/3) moist; moderate moderately thick platy structure parting to moderate medium granular; soft, friable, moderately sticky and moderately plastic; few fine roots; common very fine vesicular pores; 40 percent channers, 10 percent flags; noneffervescent; neutral (pH 7.2); abrupt smooth boundary.

Bt—2 to 13 inches; brown (7.5YR 5/4) clay, brown (7.5YR 4/4) moist; strong medium angular blocky structure; hard, friable, very sticky and moderately plastic; common fine roots; common very fine tubular pores; common thin clay films on faces of peds and lining pores; noneffervescent; neutral (pH 7.2); abrupt smooth boundary.

2R—13 inches; unweathered quartzite bedrock.

Type location: In an area of Dye-Tovar-Rock outcrop complex, 6 to 25 percent slopes; about 3,860 feet north and 5,470 feet west of the southeast corner of sec. 8, T. 25 N., R. 13 W.

Range in Characteristics

These soils are a taxadjunct to the Dye Series. These soils have smectitic mineralogy.

Rock fragments: average 0 to 35 percent; ranges to 85 percent in the surface layer
Reaction: neutral or slightly alkaline
Effervescence: noneffervescent throughout

A horizon
Value: 5 or 6 dry, 3 or 4 moist
Chroma: 3 or 4, dry or moist

Bt horizon
Hue: 2.5YR, 5YR, 7.5YR
Value: 4 or 5 dry, 3 to 5 moist
Chroma: 3 or 4, dry or moist
Texture: clay loam, clay (averages more than 35 percent clay)

Eba family

Depth class: very deep
Drainage class: well drained
Permeability: slow
Landform: fan terraces
Parent material: alluvium derived from metamorphic rock and/or igneous rock
Slope: 10 to 25 percent
Elevation: 3,000 to 4,200 feet
Mean annual precipitation: 9 to 12 inches
Mean annual air temperature: 57 to 64 degrees F
Frost-free period: 200 to 230 days
Classification: Clayey-skeletal, mixed, superactive, thermic Typic Calciargids

Typical Pedon

A—0 to 1 inch; brown (7.5YR 5/3) very gravelly sandy loam, dark brown (7.5YR 3/3) moist; weak fine granular structure; slightly hard, very friable, nonsticky and nonplastic; many very fine roots; many fine irregular pores; 45 percent gravel, 10 percent cobble; noneffervescent; neutral (pH 7.2); abrupt wavy boundary.

Bt1—1 to 8 inches; reddish brown (5YR 4/3) very gravelly clay, dark reddish brown (5YR 3/3) moist; strong medium subangular blocky structure; very hard, very firm, very sticky and very plastic; many very fine roots; common very fine tubular pores; many distinct clay films on faces of peds; 40 percent gravel, 10 percent cobble; noneffervescent; neutral (pH 7.2); clear wavy boundary.

Bt2—8 to 32 inches; reddish brown (2.5YR 4/4) very gravelly clay, dark reddish brown (2.5YR 3/4) moist; strong medium subangular blocky structure; very hard, very firm, very sticky and very plastic; common very fine roots; common very fine tubular pores; many distinct clay films on faces of peds; 55 percent gravel; noneffervescent; neutral (pH 7.2); clear wavy boundary.

Bt3—32 to 52 inches; reddish brown (5YR 5/4) very gravelly sandy clay, reddish brown (5YR 4/4) moist; moderate medium subangular blocky structure; very hard, very firm, very sticky and very plastic; common very fine roots; few very fine tubular pores; many distinct clay films on faces of peds; 35 percent gravel, 15 percent cobble; noneffervescent; neutral (pH 7.2); abrupt wavy boundary.

2Bkb—52 to 60 inches; pinkish white (7.5YR 8/2) very gravelly loam, pinkish gray (7.5YR 7/2) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; few very fine roots; few fine irregular pores; 40 percent gravel; violently effervescent; many large soft calcium carbonate masses; moderately alkaline (pH 8.0).

Type location: In an area of Nickel-Topawa family-Eba family complex, 10 to 50 percent slopes; about 550 feet north and 1,050 feet east of the southwest corner of sec. 32, T. 21 N. R. 14 W.

Range in Characteristics

Use of the "Eba family" reference term is a convention to reduce name length and implies no specific use of a soil series, reduced mapping intensity, or range of properties beyond that which is described in the map unit description and database. Use, management, and interpretations are not affected.

A horizon
Value: 3 or 4 moist
Chroma: 3 or 4 moist
Rock fragments: 40 to 60 percent cobble and gravel

Bt horizons
Hue: 2.5YR, 5YR
Value: 4 or 5 dry, 3 or 4 moist
Texture: sandy clay loam, sandy clay, clay
Rock fragments: 35 to 60 percent gravel and cobble

2Bkb horizon
Hue: 7.5YR, 10YR
Value: 5 through 8 dry, 4 through 7 moist
Chroma: 2 through 6, dry or moist

Elements Series

Depth class: very deep
Drainage class: well drained
Permeability: moderate
Landform: hills and mountains
Parent material: alluvium and colluvium derived from mixed rock sources
Slope: 30 to 65 percent
Elevation: 5,000 to 6,800 feet
Mean annual precipitation: 12 to 16 inches
Mean annual air temperature: 52 to 55 degrees F
Frost-free period: 150 to 165 days
Classification: Loamy-skeletal, mixed, superactive, mesic Ustic Haplargids

Typical Pedon

A—0 to 5 inches; brown (10YR 4/3) very stony sandy loam, very dark grayish brown (10YR 3/2) moist; weak fine granular structure; slightly hard, very friable, nonsticky and nonplastic; many very fine roots; many fine tubular pores; 15 percent stones, 15 percent cobble, and 20 percent gravel; noneffervescent; slightly alkaline (pH 7.8); abrupt smooth boundary.

Bw—5 to 11 inches; brown (10YR 4/3) very cobbly sandy loam, dark brown (10YR 3/3) moist; weak very fine subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; many very fine roots; many fine tubular pores; 20 percent gravel and 15 percent cobble; noneffervescent; slightly alkaline (pH 7.8); clear wavy boundary.

Bt1—11 to 52 inches; yellowish brown (10YR 5/4) very cobbly loam, dark yellowish brown (10YR 4/4) moist; moderate medium subangular blocky structure; hard, friable, slightly sticky and slightly plastic; common very fine roots; many fine tubular pores; common faint clay films on ped faces and lining pores; 20 percent gravel, 20 percent cobble, and 5 percent stones; noneffervescent; moderately alkaline (pH 8.0); clear wavy boundary.

Bt2—52 to 60 inches; dark yellowish brown (10YR 4/4) extremely cobbly sandy loam, brown (10YR 4/3) moist; common medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine roots; many fine tubular pores; few faint clay films on ped faces and lining pores; 35 percent gravel, 30 percent cobble, and 10 percent stones; noneffervescent; moderately alkaline (pH 8.0).

Type location: In an area of Vock-Elements-Rock outcrop complex, 30 to 65 percent slopes; about 1,400 feet east and 900 feet south of the northwest corner of sec. 23, T. 24 N., R. 18 W.

Range in Characteristics

Rock fragments: 15 to 35 percent cobble, 0 to 20 percent stones, 35 to 60 percent gravel
Reaction: slightly or moderately alkaline
Organic matter: 1 to 2 percent
Clay content: averages less than 18 percent in the control section

A horizon
Hue: 10YR, 7.5YR
Value: 4 or 5 dry
Chroma: 2 or 3 moist

B horizons
Hue: 10YR, 7.5YR
Value: 4 or 5 dry, 3 or 4 moist
Chroma: 3 or 4, dry or moist
Texture: loam, sandy loam

Faraway Series

Depth class: very shallow to bedrock (lithic)
Drainage class: well drained
Permeability: moderate
Landform: hills and mountains
Parent material: alluvium derived from granite and gneiss
Slope: 30 to 70 percent
Elevation: 4,800 to 6,700 feet

Mean annual precipitation: 12 to 16 inches
Mean annual air temperature: 50 to 57 degrees F
Frost-free period: 140 to 170 days
Classification: Loamy-skeletal, mixed, superactive, mesic Lithic Haplustolls

Typical Pedon

A—0 to 3 inches; grayish brown (10YR 5/2) extremely gravelly loam, very dark grayish brown (10YR 3/2) moist; weak thin platy structure; soft, very friable, slightly sticky and nonplastic; many very fine roots; many very fine interstitial pores; 70 percent gravel; noneffervescent; neutral (pH 7.0); clear wavy boundary.

C—3 to 7 inches; dark brown (10YR 3/3) very gravelly loam, very dark grayish brown (10YR 3/2) moist; massive; soft, very friable, slightly sticky and nonplastic; many very fine roots; many very fine tubular pores; 50 percent gravel; noneffervescent; neutral (pH 7.0); abrupt wavy boundary.

Cr—7 to 9 inches; highly weathered granite.

R—9 inches; granite bedrock.

Type location: In an area of Faraway-Rock outcrop complex, 30 to 70 percent slopes; about 700 feet south and 600 feet west of the northeast corner of sec. 20, T. 20 N., R. 15 W.

Range in Characteristics

Depth to bedrock: 6 to 9 inches
Clay content: 15 to 20 percent in the particle-size control section

Fig Series

Depth class: very shallow and shallow to bedrock (paralithic)
Drainage class: somewhat excessively drained
Permeability: moderately rapid
Landform: hills and mountains
Parent material: alluvium and colluvium derived from gneiss and granite
Slope: 30 to 70 percent
Elevation: 3,800 to 5,800 feet
Mean annual precipitation: 9 to 12 inches
Mean annual air temperature: 59 to 64 degrees F
Frost-free period: 200 to 230 days
Classification: Loamy-skeletal, mixed, superactive, nonacid, thermic, shallow Typic Torriorthents

Typical Pedon

A—0 to 2 inches; brown (7.5YR 5/4) extremely stony sandy loam, dark brown (10YR 3/3) moist; weak fine granular structure; soft, very friable, nonsticky and nonplastic; common fine roots; few fine tubular pores; 30 percent gravel, 20 percent stones, 20 percent cobble, 1 percent boulders; noneffervescent; slightly alkaline (pH 7.8); abrupt smooth boundary.

C—2 to 9 inches; brown (7.5YR 5/4) very gravelly sandy loam, dark brown (10YR 3/3) moist; massive; soft, very friable, nonsticky and nonplastic; common fine roots; few fine tubular pores; 50 percent gravel; noneffervescent; slightly alkaline (pH 7.8); abrupt smooth boundary.

2Cr—9 to 60 inches; weathered granite bedrock.

Type location: In an area of Fig-Blind-Nodman complex, 30 to 70 percent slopes; about 1,900 feet north and 1,100 feet east of the southwest corner of sec. 8, T. 22 N., R. 17 W.

Range in Characteristics

Rock fragments: average 35 to 65 percent gravel
Reaction: slightly or moderately alkaline
Clay content: 5 to 18 percent

A and C horizons
Hue: 7.5YR, 10YR
Value: 5 or 6 dry, 3 or 4 moist
Chroma: 3 or 4, dry or moist

Filaree Series

Depth class: very deep
Drainage class: somewhat excessively drained
Permeability: moderately rapid
Landform: fan terraces
Parent material: alluvium derived from mixed rock sources
Slope: 2 to 6 percent
Elevation: 2,400 to 4,000 feet
Mean annual precipitation: 9 to 12 inches
Mean annual air temperature: 57 to 70 degrees F
Frost-free period: 200 to 280 days
Classification: Coarse-loamy, mixed, superactive, thermic Typic Haplocambids

Typical Pedon

A—0 to 2 inches; brown (10YR 5/3) gravelly sandy loam, brown (10YR 4/3) moist; weak fine granular structure; soft, very friable, nonsticky and nonplastic; common very fine roots; few very fine irregular pores; 20 percent gravel; noneffervescent; slightly alkaline (pH 7.4); abrupt smooth boundary.

Bw1—2 to 18 inches; yellowish brown (10YR 5/4) gravelly sandy loam, brown (10YR 4/3) moist; weak fine subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; common very fine roots; few very fine irregular pores; 20 percent gravel;

noneffervescent; slightly alkaline (pH 7.6); clear wavy boundary.

Bw2—18 to 34 inches; yellowish brown (10YR 5/4) gravelly sandy loam, brown (10YR 4/3) moist; weak fine subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; common very fine roots; few very fine irregular pores; 25 percent gravel; noneffervescent; slightly alkaline (pH 7.8); clear wavy boundary.

Bk—34 to 60 inches; yellowish brown (10YR 5/4) gravelly sandy loam, brown (10YR 4/3) moist; weak fine subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; common very fine roots; few very fine irregular pores; 25 percent gravel; slightly effervescent; moderately alkaline (pH 8.2).

Type location: In an area of Filaree gravelly sandy loam, 2 to 6 percent slopes; about 200 feet west and 2,300 feet north of the southeast corner of sec. 3, T.24 N., R. 19 W.

Range in Characteristics

Rock fragments: 15 to 35 percent gravel
Reaction: slightly to moderately alkaline
Effervescence: noneffervescent to 20 inches or more
Clay content: ranges from 5 to 20 percent but averages 18 percent or less in the particle-size control section
Organic matter: less than 1 percent

A horizon
Hue: 7.5YR, 10YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 2 or 3, dry or moist

B horizons
Hue: 7.5YR, 10YR
Value 4 or 5 dry, 3 or 4 moist
Chroma: 3 or 4, dry or moist
Texture: sandy loam, loam

Franconia Series

Depth class: very deep
Drainage class: somewhat excessively drained
Permeability: moderately rapid
Landform: flood plains
Parent material: alluvium derived from mixed rock sources
Slope: 1 to 3 percent
Elevation: 2,800 to 3,500 feet
Mean annual precipitation: 9 to 12 inches
Mean annual air temperature: 59 to 64 degrees F
Frost-free period: 200 to 230 days
Classification: Sandy, mixed, thermic Typic Torrifluvents

Typical Pedon

A—0 to 2 inches; light brown (7.5YR 6/4) sandy loam, brown (7.5YR 5/4) moist; moderate thin platy structure; slightly hard, friable, nonsticky and nonplastic; common fine roots; many fine tubular pores; 5 percent gravel; strongly effervescent; slightly alkaline (pH 7.6); abrupt wavy boundary.

C1—2 to 18 inches; light brown (7.5YR 6/4) loamy sand, brown (7.5YR 5/4) moist; massive; soft, very friable, nonsticky and nonplastic; common fine roots; common fine irregular pores; 10 percent gravel; strongly effervescent; slightly alkaline (pH 7.8); clear wavy boundary.

C2—18 to 33 inches; pink (7.5YR 7/4) stratified loamy sand, light brown (7.5YR 6/4) moist; massive; soft, very friable, nonsticky and nonplastic; common fine roots; common fine irregular pores; 5 percent gravel; strongly effervescent; moderately alkaline (pH 8.0); abrupt wavy boundary.

C3—33 to 60 inches; pink (7.5YR 7/4) gravelly loamy sand, light brown (7.5YR 6/4) moist; massive; soft, very friable, few fine roots; few fine irregular pores; 20 percent gravel; slightly effervescent; moderately alkaline (pH 8.0).

Type location: In an area of Arizo-Franconia-Riverwash complex, 1 to 3 percent slopes; about 50 feet north and 100 feet west of the southeast corner of sec. 1, T. 15 N., R. 18 W.

Range in Characteristics

Stratification: few thin strata of finer or coarser material in part or all of the control section

A horizon
Hue: 10YR, 7.5YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 3 or 4, dry or moist
Texture: sandy loam, fine sandy loam

C horizons
Hue: 10YR, 7.5YR
Value: 5 to 7 dry, 4 to 6 moist
Chroma: 3 or 4, dry or moist
Texture: loamy sand, sand
Rock fragments: 0 to 25 percent gravel
Calcium carbonate equivalent: 5 to 10 percent

Garnet Series

Depth class: very deep
Drainage class: well drained

Permeability: moderately slow over rapid
Landform: fan terraces
Parent material: alluvium derived from igneous and metamorphic rock
Slope: 2 to 6 percent
Elevation: 2,900 to 3,200 feet
Mean annual precipitation: 9 to 12 inches
Mean annual air temperature: 57 to 62 degrees F
Frost-free period: 200 to 300 days
Classification: Fine-loamy over sandy or sandy-skeletal, mixed, superactive, thermic Typic Haplargids

Typical Pedon

A—0 to 2 inches; yellowish brown (10YR 5/4) gravelly sandy loam, brown (10YR 4/3) moist; weak fine granular structure; soft, very friable, nonsticky and nonplastic; many very fine roots; many fine tubular pores; 15 percent gravel; noneffervescent; slightly alkaline (pH 7.6); abrupt smooth boundary.

Bw—2 to 7 inches; brown (7.5YR 5/4) sandy loam, brown (7.5YR 4/3) moist; weak fine subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; common very fine roots; few fine tubular pores; 5 percent gravel; noneffervescent; slightly alkaline (pH 7.8); clear wavy boundary.

Bt1—7 to 11 inches; brown (7.5YR 5/4) sandy clay loam, brown (7.5YR 4/3) moist; moderate fine subangular blocky structure; hard, firm, slightly sticky and slightly plastic; few very fine roots; few fine tubular pores; few faint clay films lining pores and on faces of peds; 5 percent gravel; noneffervescent; slightly alkaline (pH 7.8); clear wavy boundary.

Bt2—11 to 20 inches; strong brown (7.5YR 5/6) sandy clay loam, brown (7.5YR 4/3) moist; moderate fine subangular blocky structure; hard, firm, slightly sticky and slightly plastic; few very fine roots; few fine tubular pores; few faint clay films lining pores and on faces of peds; 10 percent gravel; noneffervescent; moderately alkaline (pH 8.0); clear wavy boundary.

Bt3—20 to 23 inches; strong brown (7.5YR 5/6) very gravelly sandy clay loam, brown (7.5YR 4/3) moist; moderate fine subangular blocky structure; very hard, firm, slightly sticky and slightly plastic; few very fine roots; few fine tubular pores; few faint clay films lining pores and on faces of peds; 40 percent gravel; noneffervescent; moderately alkaline (pH 8.0); clear wavy boundary.

C1—23 to 30 inches; brown (7.5YR 5/3) extremely gravelly loamy sand, brown (7.5YR 4/4) moist; massive; slightly hard, very friable, nonsticky and nonplastic; few very fine roots; many fine interstitial pores; 80 percent gravel; noneffervescent; moderately alkaline (pH 8.0); clear wavy boundary.

C2—30 to 60 inches; brown (7.5YR 5/3) extremely gravelly sand, brown (7.5YR 4/4) moist; massive; slightly hard, very friable, nonsticky and nonplastic; few very fine roots; many fine interstitial pores; 80 percent gravel; noneffervescent; moderately alkaline (pH 8.0); clear wavy boundary.

Type location: In an area of Garnet-Dutchflat complex, 2 to 6 percent slopes; 35 degrees, 28 minutes, 54 seconds north latitude and 114 degrees, 19 minutes, 24 seconds west longitude; about 1,700 feet north and 600 feet east of the southwest corner of sec. 29, T. 24 N., R. 19 W.

Range in Characteristics

A horizon
Hue: 10YR, 7.5YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 3 or 4, dry or moist

Bt horizons
Hue: 10YR, 7.5YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 3 to 6, dry or moist
Texture: sandy clay loam, clay loam (20 to 35 percent clay)
Rock fragments: average less than 35 percent

C horizons
Hue: 10YR, 7.5YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 3 or 4, dry or moist
Texture: loamy sand, sand
Rock fragments: greater than 60 percent

The Bw horizon does not occur in all pedons.

Goesling family

Depth class: very deep
Drainage class: well drained
Permeability: moderately slow
Landform: fan terraces
Parent material: alluvium derived from limestone
Slope: 3 to 8 percent
Elevation: 4,900 to 5,500 feet
Mean annual precipitation: 10 to 14 inches
Mean annual air temperature: 48 to 52 degrees F
Frost-free period: 135 to 150 days
Classification: Fine-loamy, mixed, superactive, mesic Aridic Haplustalfs

Typical Pedon

A—0 to 2 inches; dark yellowish brown (10YR 4/4) silt loam, dark brown (7.5YR 3/2) moist; weak thin

platy structure parting to weak very fine granular; soft, very friable, slightly sticky and slightly plastic; many very fine and fine roots; many very fine tubular pores; 10 percent gravel; slightly effervescent, 5 percent calcium carbonate equivalent; slightly alkaline (pH 7.8); abrupt smooth boundary.

Bt—2 to 15 inches; dark yellowish brown (10YR 4/4) loam, dark brown (7.5YR 3/2) moist; moderate fine prismatic structure parting to weak fine subangular blocky; soft, very friable, moderately sticky and moderately plastic; many very fine and fine roots; many very fine tubular pores; few thin clay films on the faces of peds and lining pores; strongly effervescent; moderately alkaline (pH 7.9); clear smooth boundary.

Btk—15 to 60 inches; very pale brown (10YR 8/4) clay loam, very pale brown (10YR 7/4) moist; weak fine subangular blocky structure; slightly hard, very friable, moderately sticky and moderately plastic; common very fine and fine roots; common very fine tubular pores; violently effervescent, 25 percent calcium carbonate equivalent, calcium carbonate is disseminated throughout; moderately alkaline (pH 8.0)

Type location: In an area of Goesling family silt loam, 3 to 8 percent slopes; about 4,230 feet north and 1,900 feet west of the southeast corner of sec. 17, T. 24 N., R. 10 W.

Range in Characteristics

Use of the "Goesling family" reference term is a convention to reduce name length and implies no specific use of a soil series, reduced mapping intensity, or range of properties beyond that which is described in the map unit description and database. Use, management, and interpretations are not affected.

Depth to calcic horizon: 15 to 40 inches
Rock fragments: less than 10 percent

A horizon
Hue: 7.5YR, 10YR
Value: 4 or 5 dry, 3 or 4 moist
Chroma: 2 to 4, dry or moist
Texture: silt loam, loamy sand, loamy fine sand or loam

Bt and Btk horizons
Hue: 7.5YR, 10YR
Value: 4 to 8 dry, 3 to 7 moist
Chroma: 2 to 4, dry or moist
Texture: clay loam, loam
Calcium carbonate equivalent: Btk horizon ranges from 15 to 30 percent

Goldroad Series

Depth class: very shallow to bedrock (lithic)
Drainage class: somewhat excessively drained
Permeability: moderately rapid
Landform: hills and mountains
Parent material: residuum and colluvium derived from granite
Slope: 15 to 65 percent
Elevation: 845 to 3,500 feet
Mean annual precipitation: 3 to 6 inches
Mean annual air temperature: 70 to 78 degrees F
Frost-free period: 280 to 320 days
Classification: Loamy-skeletal, mixed, superactive, calcareous, hyperthermic Lithic Torriorthents

Typical Pedon

A—0 to 1 inch; yellowish brown (10YR 5/4) very cobbly sandy loam, brown (10YR 4/3) moist; weak fine granular structure; soft, very friable, nonsticky and nonplastic; common very fine roots; common very fine tubular pores; 30 percent cobble and 25 percent gravel; strongly effervescent; moderately alkaline (pH 8.0); abrupt smooth boundary.

Bw—1 to 8 inches; yellowish brown (10YR 5/4) very cobbly coarse sandy loam, brown (10YR 4/3) moist; weak fine subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; common very fine roots; common very fine tubular pores; 30 percent cobble and 25 percent gravel; strongly effervescent; moderately alkaline (pH 8.0); abrupt wavy boundary.

2R—8 inches; granite bedrock.

Type location: In an area of Goldroad-Rock outcrop complex, 35 to 65 percent slopes; about 70 feet south and 650 feet west of the northeast corner of sec. 5, T. 28 N., R. 22 W.

Range in Characteristics

Rock fragments: 35 to 75 percent granitic gravel and cobbles
Reaction: slightly or moderately alkaline
Organic matter: less than 1 percent
Calcium carbonate equivalent: 1 to 10 percent
Clay content: 5 to 18 percent

A horizon
Hue: 10YR, 7.5YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 3 or 4, dry or moist

B horizon
Hue: 10YR, 7.5YR
Value: 5 or 6 dry, 4 to 6 moist

Chroma: 3 or 4, dry or moist
Texture: sandy loam, coarse sandy loam

Gonzales Series

Depth class: shallow to bedrock (paralithic)
Drainage class: well drained
Permeability: slow
Landform: hills and mountains
Parent material: alluvium derived from volcanic rock
Slope: 15 to 35 percent
Elevation: 3,800 to 5,200 feet
Mean annual precipitation: 12 to 16 inches
Mean annual air temperature: 57 to 61 degrees F
Frost-free period: 180 to 210 days
Classification: Clayey, smectitic, thermic, shallow Ustic Haplocambids

Typical Pedon

A—0 to 1 inch; reddish gray (5YR 5/2) very cobbly sandy clay loam, dark reddish brown (5YR 3/2) moist; moderate fine granular structure; slightly hard, friable, sticky and plastic; many very fine roots; many very fine irregular pores; 20 percent cobble and 25 percent gravel; neutral (pH 7.0); abrupt wavy boundary.

Bw1—1 to 7 inches; dark reddish brown (5YR 3/2) clay, dark reddish brown (5YR 3/2) moist; moderate medium subangular blocky structure; hard, very firm, very sticky and very plastic; many very fine roots; common fine tubular pores; neutral (pH 7.0) clear wavy boundary.

Bw2—7 to 14 inches; reddish brown (5YR 4/4) clay, dark reddish brown (5YR 3/4) moist; strong medium subangular blocky structure; very hard, very firm, very sticky and very plastic; many very fine roots; few fine tubular pores; neutral (pH 7.0) abrupt wavy boundary.

2Cr—14 to 17 inches; weathered tuff.

2R—17 inches; tuff.

Type location: In an area of Gonzales-Rock outcrop complex, 15 to 35 percent slopes; about 2,500 feet east and 200 feet south of the northwest corner of sec. 14, T. 17 N., R. 11W.

Range in Characteristics

Rock fragments: average less than 15 percent in the control section
Organic matter: Less than 3 percent in the surface layer

A horizon
Hue: 5YR, 7.5YR
Value: 4 or 5 dry, 3 or 4 moist
Chroma: 2 or 3, dry or moist

Bw horizons
Hue: 5YR, 7.5YR
Value: 3 or 4, dry or moist
Chroma: 2 to 4, dry or moist
Texture: clay, sandy clay (40 to 55 percent clay)

Goodsprings family

Depth class: shallow to petrocalcic
Drainage class: well drained
Permeability: moderate
Landform: fan terraces
Parent material: alluvium derived from mixed rock sources
Slope: 10 to 35 percent
Elevation: 3,400 to 4,000 feet
Mean annual precipitation: 9 to 12 inches
Mean annual air temperature: 61 to 70 degrees F
Frost-free period: 200 to 250 days
Classification: Loamy, mixed, superactive, thermic, shallow Typic Petrocalcids

Typical Pedon

A—0 to 2 inches; light yellowish brown (10YR 6/4) gravelly sandy loam, dark yellowish brown (10YR 4/4) moist; moderate thin platy structure; slightly hard, friable, nonsticky and nonplastic; many very fine roots; many very fine vesicular pores; 30 percent gravel and gravel-size pan fragments; strongly effervescent; moderately alkaline (pH 8.2); clear wavy boundary.

Bk1—2 to 9 inches; light yellowish brown (10YR 6/4) gravelly loam, yellowish brown (10YR 5/4) moist; massive; slightly hard, friable, nonsticky and nonplastic; many very fine roots; many very fine tubular pores; 20 percent gravel and gravel-size pan fragments; common fine soft calcium carbonate masses; violently effervescent; moderately alkaline (pH 8.0); abrupt wavy boundary.

Bk2—9 to 18 inches; very pale brown (10YR 7/3) gravelly loam, pale brown (10YR 6/3) moist; massive; hard, firm, slightly sticky and slightly plastic; common very fine roots; few very fine tubular pores; 20 percent gravel and gravel-size pan fragments; many large soft calcium carbonate masses; violently effervescent; moderately alkaline (pH 8.2); abrupt wavy boundary.

2Bkm—18 to 39 inches; calcium carbonate cemented hardpan.

3C—39 to 60 inches; pale brown (10YR 6/3) extremely gravelly loamy coarse sand, yellowish brown (10YR 5/4) moist; massive; slightly hard, friable, nonsticky and nonplastic, many very fine irregular

pores; 75 percent gravel; strongly effervescent; moderately alkaline (pH 8.2).

Type location: In an area of Goodsprings family gravelly sandy loam, 1 to 15 percent slopes; about 2,200 feet west and 2,300 feet north of the southeast corner of sec. 21, T. 14 N., R. 17 W.

Range in Characteristics

Use of the "Goodsprings family" reference term is a convention to reduce name length and implies no specific use of a soil series, reduced mapping intensity, or range of properties beyond that which is described in the map unit description and database. Use, management, and interpretations are not affected.

Depth to calcium carbonate cemented hardpan: 4 to 20 inches
Rock fragments in the control section: less than 35 percent gravel

A horizon
Hue: 7.5YR, 10YR
Rock fragments: 25 to 30 percent gravel and gravel-sized pan fragments

Bk horizon
Calcium carbonate equivalent: greater than 15 percent

Gotchell Series

Depth class: very shallow and shallow to duripan
Drainage class: somewhat excessively drained
Permeability: moderately rapid
Landform: fan terraces
Parent material: alluvium derived from granite
Slope: 3 to 35 percent
Elevation: 1,600 to 2,700 feet
Mean annual precipitation: 9 to 12 inches
Mean annual air temperature: 57 to 70 degrees F
Frost-free period: 200 to 280 days
Classification: Loamy-skeletal, mixed, superactive, thermic, shallow Typic Haplodurids

Typical Pedon

A—0 to 2 inches; pale brown (10YR 6/3) extremely gravelly sandy loam, dark yellowish brown (10YR 4/4) moist; moderate medium granular structure; soft, very friable, slightly sticky and nonplastic; common very fine roots; few very fine irregular pores; 65 percent gravel; slightly effervescent; slightly alkaline (pH 7.8); abrupt smooth boundary.

Bw—2 to 14 inches; pale brown (10YR 6/3) extremely gravelly sandy loam, dark yellowish brown (10YR 4/4) moist; weak fine subangular structure; soft, very friable, nonsticky and nonplastic; few very fine and fine roots; few very fine interstitial pores; 75 percent gravel; strongly effervescent; moderately alkaline (pH 8.0); abrupt smooth boundary.

Bkqm—14 to 28 inches; very pale brown (10YR 8/2) continuous and strongly cemented duripan with a discontinuous laminar cap.

2R—28 inches; fanglomerate.

Type location: In an area of Deluge-Gotchell-Sunstroke complex, 3 to 7 percent slopes; about 200 feet south and 2,500 feet east of the northwest corner of sec. 31, T. 30 N., R. 17 W.

Range in Characteristics

Rock fragments: 35 to 75 percent
Organic matter content: less than 1 percent
Reaction: slightly or moderately alkaline
Calcium carbonate: slightly to violently effervescent
Clay content: 5 to 18 percent in the control section

A horizon
Hue: 7.5YR, 10YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 3 or 4, dry or moist

Bw horizon
Hue: 7.5YR, 10YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 3 or 4, dry or moist

Graham Series

Depth class: very shallow and shallow to bedrock (lithic)
Drainage class: well drained
Permeability: slow
Landform: hills and mountains
Parent material: alluvium derived from igneous rock
Slope: 2 to 40 percent
Elevation: 4,000 to 5,500 feet
Mean annual precipitation: 12 to 16 inches
Mean annual air temperature: 57 to 61 degrees F
Frost-free period: 180 to 210 days
Classification: Clayey, smectitic, thermic Lithic Ustic Haplargids

Typical Pedon

A—0 to 2 inches; brown (7.5YR 5/2) very cobbly loam, dark brown (7.5YR 3/2) moist; moderate medium granular structure; slightly hard, friable, nonsticky and nonplastic; many fine roots; many fine vesicular pores; 30 percent gravel, 20 percent cobble, 5 percent stones; noneffervescent; neutral (pH 6.8); abrupt wavy boundary.

Bt1—2 to 7 inches; brown (7.5YR 5/3) clay loam, dark brown (7.5YR 3/3) moist; weak medium subangular blocky structure; hard, firm, sticky and plastic; common fine roots; common fine tubular pores; 5 percent gravel, 5 percent cobble; few thin clay films on faces of peds; noneffervescent; neutral (pH 7.0) clear wavy boundary.

Bt2—7 to 14 inches; brown (7.5YR 5/3) clay, dark brown (7.5YR 3/3) moist; moderate medium subangular blocky structure; very hard, very firm, very sticky and very plastic; common fine roots; common fine tubular pores; 5 percent gravel, 2 percent cobble; few thin clay films on faces of peds; common pressure faces; noneffervescent; neutral (pH 7.0); abrupt irregular boundary.

2R—14 inches; andesite.

Type location: In an area of Graham-Rock outcrop complex, 10 to 40 percent slopes; about 2,150 feet south and 820 feet east of the NW corner of sec. 21, T. 20 N., R. 11 W.

Range in Characteristics

Rock fragments: average 1 to 35 percent in the particle-size control section.

A horizon
Hue: 7.5YR, 10YR
Value: 4 or 5 dry, 3 or 4 moist
Chroma: 2 or 3, dry or moist
Reaction: neutral to moderately alkaline

Bt horizons
Value: 4 or 5 dry, 3 or 4 moist
Chroma: 3 or 4, dry or moist
Texture: clay, clay loam
Reaction: slightly or moderately alkaline

Grandwash Series

Depth class: very shallow and shallow to bedrock (lithic)
Drainage class: well drained
Permeability: slow
Landform: hills
Parent material: colluvium derived from sandstone over residuum weathered from sandstone
Slope: 2 to 25 percent
Elevation: 4,700 to 5,800 feet
Mean annual precipitation: 14 to 18 inches
Mean annual air temperature: 48 to 55 degrees F
Frost-free period: 130 to 165 days
Classification: Clayey-skeletal, mixed, superactive, mesic Lithic Haplustalfs

Typical Pedon

A—0 to 1 inch; reddish brown (5YR 4/4) extremely flaggy sandy loam, dark reddish brown (5YR 3/3) moist; moderate fine granular structure; soft, very friable, nonsticky and nonplastic; many very fine irregular pores; 35 percent channers, 40 percent flagstones, and 15 percent stones; noneffervescent; neutral (pH 7.0); abrupt smooth boundary.

E—1 to 2 inches; reddish brown (5YR 5/3) and dark reddish brown (5YR 3/3) channery fine sandy loam, dark reddish brown (5YR 3/3) moist; moderate thick platy structure; slightly hard, very friable, nonsticky and nonplastic; few very fine roots; many very fine irregular pores and few fine tubular pores; 25 percent channers and 5 percent flagstones; noneffervescent; neutral (pH 7.0); abrupt smooth boundary.

Bt1—2 to 7 inches; reddish brown (5YR 4/4) extremely flaggy clay, dark reddish brown (2.5YR 3/4) moist; moderate medium subangular blocky structure; hard, firm, sticky and plastic; common fine roots; common fine tubular pores; 30 percent channers, 35 percent flagstones, and 5 percent stones; few faint clay films on ped faces and in pores; noneffervescent; neutral (pH 7.2); clear wavy boundary.

Bt2—7 to 12 inches: reddish brown (2.5YR 4/4) and dusky red (2.5YR 3/2) extremely flaggy clay, dark red (2.5YR 3/6) moist; moderate coarse subangular blocky structure; hard, firm, very sticky and very plastic; many fine and few coarse roots; few fine tubular pores; 20 percent channers, 45 percent flagstones, and 10 percent stones; few faint clay films on ped faces and in pores; noneffervescent; neutral (pH 7.2); abrupt wavy boundary.

2R—12 inches; thin bedded, fine grained sandstone.

Type location: In an area of Grandwash extremely flaggy sandy loam, 2 to 25 percent slopes; about 2,200 feet south and 100 feet west of the northeast corner of sec. 24, T. 25 N., R. 13 W.

Range in Characteristics

Rock fragments: Average rock fragment content in the particle-size control section ranges from 50 to 85 percent
Organic matter: 1 to 2 percent

A horizon
Value: 4 or 5 dry, 3 or 4 moist
Chroma: 3 or 4, dry or moist
Rock fragments: surface lag layer of 50 to 55 percent flagstones and 30 to 35 percent channers

E horizon
Hue: 5YR, 7.5YR, 10YR

Value: 4 or 5 dry, 3 or 4 moist
Chroma: 3 or 4 dry, 3 or 4 moist

Bt horizon
Hue: 2.5YR, 5YR
Value: 3, 4, or 5 dry, 3 or 4 moist
Chroma: 4 to 6, dry or moist

Greyeagle family

Depth class: very shallow to duripan
Drainage class: somewhat excessively drained
Permeability: moderately rapid
Landform: fan terraces
Parent material: alluvium derived from mixed rock sources
Slope: 2 to 60 percent
Elevation: 2,800 to 4,500 feet
Mean annual precipitation: 9 to 12 inches
Mean annual air temperature: 59 to 64 degrees F
Frost-free period: 200 to 230 days
Classification: Loamy-skeletal, mixed, superactive, thermic, shallow Typic Haplodurids

Typical Pedon

A—0 to 1 inch; brown (10YR 4/3) very gravelly sandy loam, dark brown (10YR 3/3) moist; weak fine granular structure; slightly hard, very friable, nonsticky and nonplastic; common very fine and fine roots; common very fine tubular pores; 40 percent gravel, 10 percent cobble; slightly effervescent; moderately alkaline (pH 8.0); abrupt smooth boundary.

Bk—1 to 9 inches; brown (10YR 5/3) very gravelly sandy loam, brown (10YR 4/3) moist; moderate fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and fine roots; common very fine tubular pores; 40 percent gravel, 10 percent cobble; strongly effervescent; moderately alkaline (pH 8.0); abrupt smooth boundary.

Bkqm—9 inches; indurated duripan.

Type location: In an area of Skelon family-Greyeagle family-Detrital complex, 3 to 30 percent slopes; about 1,350 feet south and 1,980 feet east of the northwest corner of sec. 12, T. 24 N., R. 21 W.

Range in Characteristics

"Greyeagle family" reference term is a convention to reduce name length and implies no specific use of a soil series, reduced mapping intensity, or range of properties beyond that which is described in the map unit description and database. Use, management, and interpretations are not affected.

Rock fragments: 35 to 60 percent
The particle-size control section averages 10 to 18 percent clay

A horizon
Hue: 7.5YR, 10YR
Value: 4 or 5 dry, 3 or 4 moist
Chroma: 3 or 4, dry or moist

Bk horizon
Hue: 7.5YR, 10YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 3 or 4, dry or moist
Texture: sandy loam, loamy sand

Use of the "Greyeagle family" reference term is a convention to reduce name length and implies no specific use of a soil series, reduced mapping intensity, or range of properties beyond that which is described in the map unit description and database. Use, management, and interpretations are not affected.

Gypsids

Depth class: shallow to very deep
Drainage class: well drained
Permeability: moderately rapid
Landform: fan terraces, hills, and mountains
Parent material: alluvium derived from shale
Slope: 3 to 50 percent
Elevation: 1,200 to 1,600 feet
Mean annual precipitation: 3 to 6 inches
Mean annual air temperature: 70 to 75 degrees F
Frost-free period: 300 to 360 days
Classification: Gypsids

Typical Pedon

A—0 to 1 inch; light brown (7.5YR 6/4) extremely gravelly fine sandy loam, brown (7.5YR5/4) moist; moderate thin platy structure; soft, very friable, nonsticky and nonplastic; few very fine roots; common very fine and fine irregular pores; 70 percent gravel; strongly effervescent; moderately alkaline (pH 8.0); abrupt smooth boundary.

By—1 to 8 inches; light brown (7.5YR 6/4) sandy loam, brown (7.5YR 5/4) moist; weak fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; few very fine roots; common very fine irregular pores; many fine gypsum crystals; 10 percent gravel; strongly effervescent; moderately alkaline (pH 8.0); abrupt wavy boundary.

Cy—8 to 23 inches; variegated (7.5YR 6/3 and 5YR 7/2) very gravelly loamy sand, massive; slightly hard, very friable, nonsticky and nonplastic; few very fine roots; common very fine irregular pores; many fine and

medium gypsum plates and crystals; 40 percent gravel; strongly effervescent; moderately alkaline (pH 8.2); abrupt irregular boundary.

R—23 inches; gypsiferous siltstone.

Type location: In an area of Gypsids, 3 to 50 percent slopes; about 2,100 feet south and 450 feet east of the northwest corner of sec. 1, T.31 N., R. 20 W..

Range in Characteristics

Soils in this landscape position are highly variable with respect to depth, texture, color and/or chemical properties. Therefore physical and chemical properties of specific horizons are not given and interpretations such as erodibility are not determined. The taxonomic unit description is representative of what may be found in this landscape position.

Haplocambids

Depth class: shallow to very deep
Drainage class: well drained
Permeability: moderate
Landform: fan terraces
Parent material: alluvium derived from gypsum over residuum weathered from gypsum
Slope: 3 to 15 percent
Elevation: 1,200 to 2,000 feet
Mean annual precipitation: 3 to 6 inches
Mean annual air temperature: 70 to 78 degrees F
Frost-free period: 280 to 320 days
Classification: Haplocambids

Typical Pedon

A—0 to 2 inches; light yellowish brown (10YR 6/4) very gravelly sandy loam, pale brown (10YR 6/3) moist; weak thin platy structure; slightly hard, very friable, slightly sticky and slightly plastic; few fine roots; few fine irregular pores; 50 percent gravel; violently effervescent; moderately alkaline (pH 8.2); abrupt smooth boundary.

By—2 to 14 inches; very pale brown (10YR 8/2) very gravelly sandy loam, light yellowish brown (10YR 6/4) moist; weak fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; few fine roots; few fine irregular pores; 40 percent gravel; violently effervescent; moderately alkaline (pH 8.2); abrupt smooth boundary.

C—14 to 60 inches; very pale brown (10YR 8/2) very gravelly sandy loam, light yellowish brown (10YR 6/4) moist; weak thin platy structure; slightly hard, very friable, slightly sticky and slightly plastic; few fine roots; few fine irregular pores; 45 percent gravel; violently effervescent; moderately alkaline (pH 8.2).

Type location: In an area of Torriorthents, gypsic-Haplocambids, gypsic complex, 3 to 15 percent slopes; about 1,500 feet south and 2,000 feet west of the northwest corner of sec. 15, T. 31 N., R. 20 W.

Range in Characteristics

Soils in this landscape position are highly variable with respect to depth, texture, color and/or chemical properties. Therefore physical and chemical properties of specific horizons are not given and interpretations such as erodibility are not determined. The taxonomic unit description is representative of what may be found in this landscape position.

Haplogypsids

Depth class: shallow to bedrock
Drainage class: well drained
Permeability: rapid
Landform: hills and mountains
Parent material: alluvium derived from shale
Slope: 35 to 75 percent
Elevation: 900 to 3,000 feet
Mean annual precipitation: 3 to 6 inches
Mean annual air temperature: 70 to 78 degrees F
Frost-free period: 280 to 320 days
Classification: Haplogypsids

Typical Pedon

A—0 to 1 inch; yellowish red (5YR 5/6) very gravelly sandy loam, yellowish red (5YR 4/6) moist; weak fine subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; few very fine roots; many very fine interstitial pores; 50 percent gravel; noneffervescent; slightly alkaline (pH 8.0); abrupt smooth boundary.

By—1 to 16 inches; red (2.5YR 4/6) very gravelly sand, dark reddish brown (2.5YR 3/4) moist; weak fine granular structure; soft, very friable, nonsticky and nonplastic; few very fine roots; many fine and medium interstitial pores; 45 percent white (5YR 8/1) crystalline gypsum; 35 percent gravel; noneffervescent; slightly alkaline (pH 7.8); abrupt irregular boundary.

Cr—16 to 60 inches; gypsum bedrock.

Type location: In an area of Haplogypsids, eroded-Haplogypsids complex, 35 to 75 percent slopes; about 950 feet south and 1,200 feet west of the northwest corner of sec. 36, T. 31 N., R. 23 W.

Range in Characteristics

Soils in this landscape position are highly variable with respect to depth, texture, color and/or chemical properties. Therefore physical and chemical properties of specific horizons are not given and interpretations such as erodibility are not determined. The taxonomic unit description is representative of what may be found in this landscape position.

Hassell family

Depth class: moderately deep to bedrock (paralithic)
Drainage class: well drained
Permeability: slow
Landform: hills and mountains
Parent material: alluvium derived from granite
Slope: 10 to 30 percent
Elevation: 5,000 to 6,800 feet
Mean annual precipitation: 12 to 16 inches
Mean annual air temperature: 58 to 60 degrees F
Frost-free period: 120 to 190 days
Classification: Fine, smectitic, thermic Ustertic Haplargids

Typical Pedon

A—0 to 4 inches; brown (10YR 4/3) loam, very dark grayish brown (10YR 3/2) moist; moderate thin and medium platy structure; hard, friable, slightly sticky and slightly plastic; many very fine roots; many very fine irregular pores; 10 percent gravel; noneffervescent; slightly acid (pH 6.5); abrupt wavy boundary.

Bt1—4 to 13 inches; yellowish red (5YR 5/6) clay, reddish brown (5YR 4/4) moist; strong fine and medium subangular blocky structure; very hard, firm, sticky and plastic; many very fine, common fine and medium roots; many very fine tubular pores; distinct thick clay films on faces of peds and in pores; 5 percent gravel; noneffervescent; neutral (pH 6.8); clear wavy boundary.

Bt2—13 to 24 inches; strong brown (7.5YR 5/6) clay, brown (7.5YR 4/4) moist; strong fine and medium subangular blocky structure; very hard, firm, sticky and plastic; many very fine, common fine and medium roots; many very fine tubular pores; many distinct clay films on faces of peds; 10 percent gravel; noneffervescent; neutral (pH 6.8); clear wavy boundary.

Bt3—24 to 33 inches; reddish yellow (7.5YR 6/6) gravelly clay loam, strong brown (7.5YR 5/6) moist; weak fine and medium subangular blocky structure; hard, friable, sticky and plastic; many very fine and medium roots; many very fine tubular pores; few thin clay films on faces of peds; 15 percent gravel; noneffervescent; neutral (pH 6.8); abrupt wavy boundary.

2Cr—33 to 47 inches; weathered granite (grus); common yellowish red (5YR 4/6) clay coatings; few black stains; many very fine roots.

2R—47 inches; granite bedrock.

Type location: In an area of Hassell family-Lampshire-Rock outcrop complex, 10 to 30 percent slopes; about 2,000 feet east and 1,600 feet south of the northwest corner of sec. 28, T. 20 N., R. 15 W.

Range in Characteristics

Use of the "Hassell family" reference term is a convention to reduce name length and implies no specific use of a soil series, reduced mapping intensity, or range of properties beyond that which is described in the map unit description and database. Use, management, and interpretations are not affected.

Depth to weathered bedrock: 20 to 40 inches
Reaction: slight to neutral

A horizon
Hue: 7.5YR, 10YR
Value: 3 or 4, dry or moist
Chroma: 2 or 3, dry or moist

Bt horizons
Hue: 5YR, 7.5YR, 10YR
Value: 4 or 5, dry or moist
Chroma: 4 to 6, dry or moist
Texture: clay, clay loam

Havasupai Series

Depth class: shallow to petrocalcic
Drainage class: well drained
Permeability: moderate
Landform: fan terraces
Parent material: alluvium derived from limestone
Slope: 2 to 35 percent
Elevation: 4,300 to 5,100 feet
Mean annual precipitation: 10 to 12 inches
Mean annual air temperature: 52 to 55 degrees F
Frost-free period: 135 to 175 days
Classification: Loamy-skeletal, mixed, superactive, mesic, shallow Calcic Petrocalcids

Typical Pedon

A—0 to 2 inches; brown (7.5YR 5/2) extremely gravelly sandy loam, dark brown (7.5YR 3/2) moist; weak fine subangular blocky structure parting to weak fine granular; soft, very friable, nonsticky and slightly

plastic; many very fine roots; many very fine irregular pores; 65 percent fine gravel as surface lag layer; strongly effervescent, 16 percent calcium carbonate equivalent; slightly alkaline (pH 7.5); abrupt smooth boundary.

Bk1—2 to 7 inches; yellowish brown (10YR 5/4) very gravelly fine sandy loam, dark yellowish brown (10YR 3/4) moist; weak fine subangular blocky structure; slightly hard, very friable, nonsticky and slightly plastic; many very fine roots; common very fine tubular pores; 40 percent gravel and 5 percent cobble; few thin calcium carbonate coatings under rock fragments; strongly effervescent, 14 percent calcium carbonate equivalent; slightly alkaline (pH 7.4); clear wavy boundary.

Bk2—7 to 15 inches; light brown (7.5YR 6/4) extremely gravelly sandy loam, brown (7.5YR 5/4) moist; weak fine subangular blocky structure; hard, friable, nonsticky and slightly plastic; common very fine roots; few very fine tubular pores; 55 percent gravel and 10 percent cobble; common thin calcium carbonate coatings on rock fragments; violently effervescent, 45 percent calcium carbonate equivalent; slightly alkaline (pH 7.5); abrupt wavy boundary.

Bkqm—15 to 25 inches; laminar capped, calcium carbonate cemented hardpan; abrupt wavy boundary.

2Bk—25 to 60 inches; reddish brown (5YR 5/4) extremely gravelly coarse sand, reddish brown (5YR 4/4) moist; massive; very hard, friable, nonsticky and nonplastic; 80 percent gravel and 5 percent cobble; many thick calcium carbonate coatings and pendants on rock fragments; weak to strong discontinuous calcium carbonate cementation; violently effervescent, slightly alkaline (pH 7.4).

Type location: In an area of Peachsprings-Havasupai complex, 2 to 35 percent slopes; about 2,400 feet west and 1,400 feet south of the northeast corner of sec. 4, T. 25 N., R. 9 W.

Range in Characteristics

Rock fragments: average 35 to 70 percent in the control section
Clay content: averages more than 18 percent in the control section
Calcium carbonate: averages 15 to 35 percent in the control section, but individual horizons range to 75 percent
Reaction: slightly or moderately alkaline

A horizon
Hue: 7.5YR, 10YR
Value: 5 or 6 dry, 3 to 5 moist
Chroma: 2 to 4, dry or moist

Bk horizons
Hue: 7.5YR, 10YR
Value: 4 to 8 dry, 3 to 5 moist
Chroma: 3 to 5, dry or moist
Texture: fine sandy loam, sandy clay loam, sandy loam, loam

2Bk or C horizons
Hue: 5YR, 7.5YR
Value: 5 to N8 dry, 4 to 8 moist
Chroma: 0 to N8, dry or moist
Texture: sand, coarse sand, sandy loam, coarse sandy loam, loamy coarse sand
Rock fragments: 35 to 90 percent gravel and cobble

C horizons are not present in all pedons.

Hindu Series

Depth class: very shallow and shallow to bedrock (lithic)
Drainage class: well drained
Permeability: moderate
Landform: hills and mesas
Parent material: alluvium and colluvium derived from limestone
Slope: 5 to 45 percent
Elevation: 4,000 to 4,800 feet
Mean annual precipitation: 9 to 12 inches
Mean annual air temperature: 57 to 68 degrees F
Frost-free period: 175 to 220 days
Classification: Loamy-skeletal, mixed, superactive, calcareous, thermic Lithic Torriorthents

Typical Pedon

A—0 to 3 inches; light brown (7.5YR 6/3) extremely cobbly loam, brown (7.5YR 4/4) moist; weak thick platy structure parting to weak medium subangular blocky; soft, very friable, nonsticky and nonplastic; many very fine and few fine roots; many very fine and few medium irregular and tubular pores; 40 percent cobble, 40 percent gravel and 10 percent stones; violently effervescent, 26 percent calcium carbonate equivalent; moderately alkaline (pH 8.4); clear wavy boundary.

Bk—3 to 9 inches; light brown (7.5YR 6/4) very gravelly loam, brown (7.5YR 4/4) moist; moderate medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and few fine roots; common very fine tubular pores; 40 percent gravel and 10 percent cobble; common thin calcium carbonate coats on rock fragments and adjacent ped faces; violently effervescent, 31 percent calcium carbonate equivalent; moderately alkaline (pH 8.0); abrupt wavy boundary.

R—9 inches; grey, thinly bedded limestone bedrock.

Type location: In an area of Hindu-Rock outcrop complex, 5 to 45 percent slopes; about 750 feet west of the southeast corner of sec. 9, T. 27 N., R. 12 W.

Range in Characteristics

Depth to bedrock: 3 to 19 inches
Surface rock fragments: 75 to 95 percent

B horizon
Texture: loam, fine sandy loam, sandy loam

Hooks family

Depth class: very deep
Drainage class: well drained
Permeability: moderately rapid
Landform: fan terraces
Parent material: alluvium derived from igneous and metamorphic rock
Slope: 1 to 5 percent
Elevation: 3,900 to 4,500 feet
Mean annual precipitation: 12 to 16 inches
Mean annual air temperature: 59 to 64 degrees F
Frost-free period: 170 to 230 days
Classification: Fine-loamy, mixed, superactive, thermic Ustic Haplocambids

Typical Pedon

A—0 to 3 inches; yellowish brown (10YR 5/4) sandy loam, brown (10YR 4/3) moist; strong thin platy structure; soft, very friable, nonsticky and nonplastic; many very fine and fine roots; few very fine vesicular and common very fine to medium tubular pores; 5 percent gravel; noneffervescent; neutral (pH 6.6); abrupt smooth boundary.

Bw1—3 to 17 inches; dark yellowish brown (10YR 4/4) loam, dark yellowish brown (10YR 3/4) moist; weak medium and fine subangular blocky structure; slightly hard, very friable, slightly sticky and nonplastic; few very fine and fine roots; common very fine tubular pores; 5 percent gravel; noneffervescent; neutral (pH 7.2); gradual smooth boundary.

Bw2—17 to 39 inches; dark yellowish brown (10YR 4/4) loam, dark yellowish brown (10YR 3/4) moist; moderate medium subangular blocky structure; slightly hard, friable, slightly sticky and nonplastic; few very fine and common fine roots; common very fine and fine and few medium tubular pores; 5 percent gravel; noneffervescent, neutral (pH 7.2); clear wavy boundary.

Bw3—39 to 55 inches; dark yellowish brown (10YR 4/4) loam, dark yellowish brown (10YR 3/4) moist; moderate medium and fine subangular blocky structure; slightly hard, friable, slightly sticky and nonplastic; few very fine, common fine and few medium roots; common very fine and fine and few medium tubular pores; 10 percent gravel, 3 percent cobble; noneffervescent; neutral (pH 7.0); clear smooth boundary.

Bw4—55 to 60 inches; brown (7.5YR 5/4) loam, dark brown (7.5YR 3/4) moist; moderate very fine and fine subangular blocky structure; soft, very friable, slightly sticky and nonplastic; few very fine, common fine and few medium roots; common very fine and fine tubular pores; 10 percent gravel; slightly effervescent; slightly alkaline (pH 7.8).

Type location: In an area of Hooks-Courtland families complex, 1 to 5 percent slopes; 35 degrees, 15 minutes, 10 seconds north latitude; 113 degrees, 35 minutes, 11 seconds west longitude.

Range in Characteristics

Use of the "Hooks family" reference term is a convention to reduce name length and implies no specific use of a soil series, reduced mapping intensity, or range of properties beyond that which is described in the map unit description and database. Use, management, and interpretations are not affected.

Rock fragments: less than 35 percent throughout the profile
Reaction: slightly acid to moderately alkaline
Clay content: 18 to 24 percent in the particle-size control section

A horizon
Hue: 7.5YR, 10YR
Chroma: 3 or 4 dry

Bw horizons
Hue: 7.5YR, 10YR
Value: 4 or 5 dry, 3 or 4 moist
Chroma: 3 or 4, dry or moist
Texture: sandy loam, loam, silt loam

Some pedons have Bt, Bk, C, and/or Ck horizons.

Some pedons do not have Bw horizons.

Hosta family

Depth class: very deep
Drainage class: well drained
Permeability: very slow
Landform: fan terraces
Parent material: alluvium derived from limestone
Slope: 1 to 8 percent

Elevation: 5,000 to 5,200 feet
Mean annual precipitation: 14 to 18 inches
Mean annual air temperature: 50 to 56 degrees F
Frost-free period: 135 to 150 days
Classification: Fine, mixed, superactive, mesic Aridic Haplustalfs

Typical Pedon

A—0 to 3 inches; brown (10YR 5/3) sandy loam, dark brown (10YR 3/3) moist; weak fine granular structure; slightly hard, very friable, nonsticky and nonplastic; common very fine roots; many fine and medium irregular pores; noneffervescent; slightly alkaline (pH 7.6); abrupt smooth boundary.

Bw—3 to 8 inches; brown (10YR 5/3) loam, dark brown (10YR 3/3) moist; moderate fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine roots; many very fine and fine tubular pores; noneffervescent; slightly alkaline (pH 7.6); clear wavy boundary.

Bt—8 to 28 inches; dark brown (10YR 3/3) clay, very dark grayish brown (10YR 3/2) moist; strong fine prismatic structure parting to strong very fine and fine subangular blocky; very hard, very firm, very sticky and very plastic; common very fine roots; common very fine tubular pores; common thin clay films on faces of peds and lining pores; slightly alkaline (pH 7.8); clear wavy boundary.

Btk—28 to 38 inches; brown (10YR 4/3) silty clay, very dark grayish brown (10YR 3/2) moist; weak fine prismatic structure parting to strong very fine and fine subangular blocky; very hard, very firm, very sticky and very plastic; few very fine roots; common very fine tubular pores; few thin clay films on faces of peds and lining pores; few fine soft calcium carbonate masses; strongly effervescent, less than 5 percent calcium carbonate equivalent; moderately alkaline (pH 8.0); clear wavy boundary

Bk—38 to 60 inches; brown (10YR 4/3) clay loam, very dark grayish brown (10YR 3/2) moist; weak fine prismatic structure parting to moderate fine subangular blocky; hard, very friable, moderately sticky and moderately plastic; few very fine roots; common very fine tubular pores; few fine soft calcium carbonate masses; strongly effervescent, less than 5 percent calcium carbonate equivalent; moderately alkaline (pH 8.0).

Type location: In an area of Hosta family sandy loam, 1 to 8 percent slopes; about 200 feet south and 700 feet east of the northwest corner of sec. 22, T. 21 N., R. 10 W.

Range in Characteristics

Use of the "Hualapai family" reference term is a convention to reduce name length and implies no specific use of a soil series, reduced mapping intensity, or range of properties beyond that which is described in the map unit description and database. Use, management, and interpretations are not affected.

Rock fragments: less than 35 percent

A horizon
Hue: 7.5YR, 10YR
Value: 3 to 5 dry, 2 or 3 moist
Chroma: 2 or 3, dry or moist

B horizons
Hue: 7.5YR, 10YR
Value: 3 to 5 dry, 3 to 4 moist
Chroma: 2 or 3, dry or moist
Texture: loam, silty clay, clay, clay loam

House Mountain family

Depth class: very shallow and shallow to bedrock (lithic)
Drainage class: well drained
Permeability: moderate
Landform: hills and mountains
Parent material: alluvium derived from volcanic rock
Slope: 10 to 35 percent
Elevation: 3,000 to 4,800 feet
Mean annual precipitation: 9 to 12 inches
Mean annual air temperature: 62 to 68 degrees F
Frost-free period: 180 to 250 days
Classification: Loamy, mixed, superactive, nonacid, thermic Lithic Torriorthents

Typical Pedon

A—0 to 2 inches; yellowish brown (10YR 5/4) very gravelly sandy loam, dark yellowish brown (10YR 3/4) moist; weak thin platy structure parting to weak fine granular; soft, very friable, nonsticky and nonplastic; many very fine roots; many very fine tubular pores; 45 percent gravel; noneffervescent; moderately alkaline (pH 7.9); abrupt wavy boundary.

C—2 to 5 inches; yellowish brown (10YR 5/4) gravelly sandy loam, dark yellowish brown (10YR 3/4) moist; weak fine granular structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine roots; many very fine tubular pores; 25 percent

gravel; noneffervescent; moderately alkaline (pH 7.9); abrupt wavy boundary.

2Cr—5 to 9 inches; highly weathered tuff.

2R—9 inches; hard tuff bedrock.

Type location: In an area of House Mountain family-Calvista family-Rock outcrop complex, 10 to 35 percent slopes; about 3,600 feet north and 1,920 feet east of the southwest corner of sec. 21 T. 26 N., R. 19 W.

Range in Characteristics

Use of the "House Mountain family" reference term is a convention to reduce name length and implies no specific use of a soil series, reduced mapping intensity, or range of properties beyond that which is described in the map unit description and database. Use, management, and interpretations are not affected.

Organic matter content: less than 1 percent
Effervescence: noneffervescent to violently effervescent

A horizon
Hue: 7.5YR, 10YR
Value: 4 or 5 dry, 3 or 4 moist
Chroma: 2 to 4, dry or moist

C horizon
Hue: 10YR, 7.5YR
Value: 4 or 5 dry, 3 or 4 moist
Chroma: 2 to 4, dry or moist
Texture: sandy loam, loam, clay loam, cobbly clay loam

Huevi Series

Depth class: very deep
Drainage class: well drained
Permeability: moderately rapid
Landform: fan terraces
Parent material: alluvium derived from mixed rock sources
Slope: 1 to 70 percent
Elevation: 600 to 3,000 feet
Mean annual precipitation: 3 to 6 inches
Mean annual air temperature: 70 to 78 degrees F
Frost-free period: 250 to 325 days
Classification: Loamy-skeletal, mixed, superactive, hyperthermic Durinodic Haplocalcids

Typical Pedon

A—0 to 2 inches; light yellowish brown (10YR 6/4) very gravelly sandy loam, brown (10YR 4/3) moist; weak thin platy structure; slightly hard, very friable, nonsticky and nonplastic; many very fine roots; many very fine and fine irregular pores; 45 percent gravel; violently effervescent, 17 percent calcium carbonate equivalent; moderately alkaline (pH 8.2); abrupt smooth boundary.

Bk—2 to 18 inches; light yellowish brown (10YR 6/4) very gravelly sandy loam, dark yellowish brown (10YR 4/4) moist; weak fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine roots; common very fine and fine irregular pores; 50 percent gravel; many fine soft calcium carbonate masses; violently effervescent, 29 percent calcium carbonate equivalent; moderately alkaline (pH 8.4); abrupt smooth boundary.

2Bkq—18 to 60 inches; very pale brown (10YR 7/3) very gravelly loam, yellowish brown (10YR 5/4) moist; massive; slightly hard, friable, nonsticky and nonplastic; few very fine roots; few very fine tubular pores; 45 percent gravel; 40 percent of the matrix is weakly cemented by silica and calcium carbonate, common medium lenses and concretions that are strongly cemented by silica and calcium carbonate and are brittle when moist; common thick silica and calcium carbonate coats and pendants on the undersides of rock fragments; violently effervescent, 32 percent calcium carbonate equivalent; moderately alkaline (pH 8.4).

Type location: In an area of Appleseed-Huevi association, 4 to 30 percent slopes; about 1,100 feet north and 600 feet west of the southeast corner of sec. 25, T. 31 N., R. 20 W.

Range in Characteristics

Depth to calcic horizon: 2 to 6 inches
Depth to 2Bkq horizon: 7 to 21 inches

Control section
Clay content: 8 to 18 percent
Rock fragments: 35 to 80 percent gravel and cobbles
Calcium carbonate equivalent: 15 to 35 percent in the less than 20 millimeter fraction

A horizon
Hue: 10YR, 7.5YR
Value: 5 to 7 dry, 4 or 5 moist
Chroma: 3 or 4, dry or moist

Bk horizon
Hue: 10YR, 7.5YR
Value: 6 or 7 dry, 4 or 5 moist
Chroma: 3 or 4, dry or moist
Texture: sandy loam, fine sandy loam, loam

2Bkq horizon
Hue: 10YR, 7.5YR
Value: 6 to 8 dry, 4 to 6 moist
Chroma: 3 or 4, dry or moist
Texture: coarse sandy loam, sandy loam, fine sandy loam, very fine sandy loam, loam
Cementation: 20 to 50 percent of the matrix is strongly cemented by silica and calcium carbonate. This cementation occurs as concretions, durinodes, and/or lenses within the matrix. These are hard or very hard when dry and brittle when moist, and do not slake in dilute hydrochloric acid. The remainder of the matrix is either continuously or discontinuously weakly cemented by calcium carbonate.

Hulda Series

Depth class: very shallow and shallow to bedrock (lithic)
Drainage class: somewhat excessively drained
Permeability: moderately rapid
Landform: hills and mountains
Parent material: alluvium and colluvium derived from granite
Slope: 20 to 70 percent
Elevation: 2,500 to 5,200 feet
Mean annual precipitation: 9 to 12 inches
Mean annual air temperature: 59 to 70 degrees F
Frost-free period: 200 to 280 days
Classification: Loamy-skeletal, mixed, superactive, calcareous, thermic Lithic Torriorthents

Typical Pedon

A—0 to 3 inches; brown (10YR 4/3) extremely gravelly sandy loam, dark brown (10YR 3/3) moist; weak fine granular structure; soft, very friable, nonsticky and nonplastic; many very fine roots; many very fine tubular pores; 60 percent gravel, 5 percent cobble; slightly effervescent; moderately alkaline (pH 8.0); abrupt smooth boundary.

Bw—3 to 8 inches; dark yellowish brown (10YR 4/4) very gravelly sandy loam, brown (10YR 4/3) moist; weak fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; common very fine roots; many very fine tubular pores; 50 percent gravel, 5 percent cobble; slightly effervescent; moderately alkaline (pH 8.0); abrupt wavy boundary.

2R—8 inches; granite bedrock.

Type location: In an area of Hulda extremely gravelly sandy loam, 20 to 65 percent slopes; about 240 feet north and 650 feet east of the southwest corner of sec. 14, T. 26 N., R. 21 W.

Range in Characteristics

Rock fragments: average more than 35 percent in the control section
Reaction: slightly to moderately alkaline
Calcium carbonate: slightly effervescent to strongly effervescent throughout
Clay content: averages 5 to 18 percent

A horizon
Hue: 7.5YR, 10YR
Value: 4 or 5 dry, 3 or 4 moist
Chroma: 3 or 4, dry or moist

B horizon
Hue: 7.5YR, 10YR
Value: 4 or 5 dry, 3 or 4 moist
Chroma: 3 or 4, dry or moist

Ireteba family

Depth class: very deep
Drainage class: well drained
Permeability: moderately rapid
Landform: stream terraces
Parent material: alluvium derived from mixed rock sources
Slope: 1 to 3 percent
Elevation: 2,800 to 4,600 feet
Mean annual precipitation: 9 to 12 inches
Mean annual air temperature: 57 to 64 degrees F
Frost-free period: 200 to 230 days
Classification: Coarse-loamy, mixed, superactive, calcareous, thermic Typic Torrifluvents

Typical Pedon

A—0 to 2 inches; brown (7.5YR 5/4) gravelly sandy loam, dark brown (7.5YR 3/4); moist; weak fine granular structure; soft, very friable, nonsticky and nonplastic; many very fine roots; many very fine tubular pores; noneffervescent; 15 percent gravel; neutral (pH 6.8); clear wavy boundary.

C1—2 to 10 inches; brown (7.5YR 5/4) sandy loam, dark brown (7.5YR 3/4) moist; moderate medium subangular blocky structure; slightly hard, friable, nonsticky and nonplastic; many very fine roots; common very fine tubular pores; noneffervescent; 10 percent gravel; neutral (pH 7.0); clear wavy boundary.

C2—10 to 19 inches; brown (7.5YR 4/4) gravelly sandy loam, dark brown (7.5YR 3/4) moist, moderate medium subangular blocky structure; slightly hard, friable, nonsticky and nonplastic; many very fine roots; common very fine tubular pores; noneffervescent; 15 percent gravel; neutral (pH 7.0) clear wavy boundary.

C3—19 to 31 inches; brown (7.5YR 5/4) gravelly

sandy loam, brown (7.5YR 4/4); moist; massive; slightly hard, friable, nonsticky and nonplastic; common fine roots; common very fine tubular pores; 30 percent gravel; strongly effervescent; few very fine calcium carbonate filaments; slightly alkaline (pH 7.4); clear wavy boundary.

C4—31 to 41 inches; brown (7.5YR 5/4) gravelly coarse sandy loam, brown (7.5YR 4/4); moist; massive; soft, very friable, nonsticky and nonplastic; common very fine roots; common very fine irregular pores; 25 percent gravel; strongly effervescent; few very fine calcium carbonate filaments; slightly alkaline (pH 7.4); abrupt wavy boundary.

C5—41 to 60 inches; light brown (7.5YR 6/4) very gravelly loamy sand, brown (7.5YR 5/4) moist; single grain; loose, nonsticky and nonplastic; common very fine roots; common very fine irregular pores; 40 percent gravel; strongly effervescent; few very fine calcium carbonate filaments; slightly alkaline (pH 7.4).

Type location: In an area of Ireteba family-Arizo complex, 1 to 3 percent slopes; about 50 feet south and 120 feet east of the northwest corner of sec. 17, T. 20 N., R. 13 W.

Range in Characteristics

Use of the "Ireteba family" reference term is a convention to reduce name length and implies no specific use of a soil series, reduced mapping intensity, or range of properties beyond that which is described in the map unit description and database. Use, management, and interpretations are not affected.

A horizon
Value: 4 or 5 dry, 3 or 4 moist
Coarse fragments: 15 to 25 percent gravel

C horizons
Value: 4 to 6 dry, 3 to 5 moist
Texture: sandy loam, coarse sandy loam, loamy sand
Coarse fragments: 10 to 40 percent gravel, averages less than 35 percent in the particle-size control section

Jagerson Series

Depth class: very deep
Drainage class: well drained
Permeability: moderately slow
Landform: fan terraces
Parent material: alluvium derived from volcanic rock
Slope: 0 to 4 percent
Elevation: 2,800 to 4,800 feet
Mean annual precipitation: 9 to 12 inches
Mean annual air temperature: 57 to 70 degrees F
Frost-free period: 180 to 280 days
Classification: Fine-loamy, mixed, superactive, thermic Typic Calciargids

Typical Pedon

A—0 to 2 inches; light brown (7.5YR 6/4) gravelly sandy clay loam, brown (7.5YR 4/4) moist; weak fine platy structure parting to weak fine granular; soft, very friable, nonsticky and nonplastic; common very fine and fine roots; common very fine irregular pores; 15 percent gravel; noneffervescent, slightly alkaline (pH 7.8); abrupt smooth boundary.

Bt1—2 to 9 inches; brown (7.5YR 5/4) gravelly sandy clay loam, brown (7.5YR 4/4) moist; weak fine subangular blocky structure; slightly hard, very friable, sticky and plastic; few faint clay skins lining pores; common fine and very fine roots; common fine tubular pores; 20 percent gravel; noneffervescent; slightly alkaline (pH 7.8); abrupt smooth boundary.

Bt2—9 to 18 inches; strong brown (7.5YR 4/6) clay loam, brown (7.5YR 4/4) moist; moderate fine subangular blocky structure; slightly hard, friable, sticky and plastic; few faint clay skins lining pores; common very fine roots; common very fine tubular pores; 5 percent gravel; strongly effervescent, 8 percent calcium carbonate equivalent; moderately alkaline (pH 8.0); gradual smooth boundary.

Bk1—18 to 42 inches; pink (7.5YR 7/3) very gravelly sandy loam, pink (7.5YR 7/4) moist; weak fine subangular blocky structure; extremely hard, firm, nonsticky and nonplastic; few very fine roots; few very fine pores; 45 percent gravel, 5 percent cobble; many pinkish white medium and coarse soft calcium carbonate masses; violently effervescent, 30 percent calcium carbonate equivalent; moderately alkaline (pH 8.0); gradual smooth boundary.

2Bk2—42 to 60 inches; light brown (7.5YR 6/4) extremely gravelly loamy coarse sand, brown (7.5YR 5/4) moist; massive; slightly hard, very friable, nonsticky and nonplastic; few very fine roots; few very fine pores; 55 percent gravel, 10 percent cobble; many prominent calcium carbonate coatings on all sides of rock fragments; violently effervescent, 8 percent calcium carbonate equivalent; moderately alkaline (pH 8.0).

Type location: In an area of Jagerson-Nealy complex, 1 to 3 percent slopes; about 1,500 feet west and 1,900 feet south of the northeast corner of sec. 26, T.24 N., R. 20 W.

Range in Characteristics

Rock fragments: average 15 to 34 percent rock fragments in the control section and 35 to 65

percent below. A surface gravel layer is common, ranging from 10 to 25 percent
Calcium carbonate equivalent: 5 to 30 percent
Depth to a calcic horizon: 15 to 30 inches
Depth to base of argillic horizon: 14 to 24 inches
Clay content: averages 18 to 35 percent in the control section
Organic matter: less than 1 percent

A horizon
Hue: 7.5YR, 10YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 3 or 4, dry or moist
Effervescence: noneffervescent to slightly effervescent

Bt horizons
Hue: 5YR, 7.5YR
Value: 4 to 6 dry, 3 or 4 moist
Chroma: 4 to 6, dry or moist
Texture: sandy clay loam, clay loam
Effervescence: noneffervscent to strongly effervescent

Bk horizons
Hue: 7.5YR, 10YR
Value: 6 to 8 dry, 5 to 8 moist
Chroma: 2 to 4, dry or moist
Texture: sandy loam, loamy coarse sand
Effervescence: strongly to violently effervescent

Kingtut Series

Depth class: shallow to petrocalcic
Drainage class: well drained
Permeability: slow
Landform: mesas and plateaus
Parent material: alluvium derived from rhyolite
Slope: 3 to 12 percent
Elevation: 4,300 to 5,100 feet
Mean annual precipitation: 10 to 14 inches
Mean annual air temperature: 52 to 55 degrees F
Frost-free period: 150 to 165 days
Classification: Fine, smectitic, mesic, shallow Ustalfic Petrocalcids

Typical Pedon

A—0 to 2 inches; brown (10YR 4/3) very gravelly sandy loam, dark brown (10YR 3/3) moist; weak thin platy structure; soft, very friable, nonsticky and nonplastic; few very fine roots; few very fine irregular pores; 40 percent gravel; strongly effervescent, 3 percent calcium carbonate equivalent; slightly alkaline (pH 7.8); abrupt smooth boundary.

AB—2 to 4 inches; dark brown (7.5YR 3/4) gravelly sandy clay loam, dark brown (7.5YR 3/2) moist; weak fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; common very fine and fine roots; common fine tubular pores; 20 percent gravel; strongly effervescent, 5 percent calcium carbonate equivalent; slightly alkaline (pH 7.8); abrupt smooth boundary.

Btk—4 to 17 inches; reddish brown (5YR 4/3) gravelly sandy clay, dark reddish brown (5YR 3/4) moist; moderate fine prismatic parting to moderate fine angular blocky structure; hard, friable, very sticky and very plastic; common very fine, fine, and medium roots; common fine tubular pores; 15 percent gravel and very hard calcium carbonate nodules; common prominent clay films on faces of peds and lining pores; strongly effervescent, 9 percent calcium carbonate equivalent; slightly alkaline (pH 7.8); abrupt smooth boundary.

2Bkm—17 to 33 inches; calcium carbonate cemented petrocalcic with discontinuous laminar cap; abrupt smooth boundary.

3R—33 inches; rhyolite.

Type location: In an area of Kingtut-Promontory complex, 3 to 12 percent slopes; about 750 feet south and 150 feet west of the northeast corner of sec. 16, T. 24 N., R. 13 W.

Range in Characteristics

Reaction: slightly to moderately alkaline
Rock fragments: average 5 to 30 percent in the control section

A horizon
Hue: 7.5YR, 10YR
Value: 4 or 5 dry, 3 or 4 moist
Chroma: 3 or 4, dry or moist

AB horizon
Hue: 7.5YR, 10YR
Value: 3 or 4, dry or moist
Chroma: 2 to 4, dry or moist

Bt horizon
Hue: 5YR, 7.5YR
Value: 3 or 4, dry or moist
Chroma: 2 to 4, dry or moist
Calcium carbonate equivalent: 10 to 15 percent
Clay content: 35 to 55 percent

Kinley Series

Depth class: very deep
Drainage class: well drained
Permeability: moderately rapid
Landform: fan terraces

Parent material: alluvium derived from mixed rock sources
Slope: 15 to 35 percent
Elevation: 2,000 to 3,000 feet
Mean annual precipitation: 9 to 12 inches
Mean annual air temperature: 64 to 70 degrees F
Frost-free period: 230 to 250 days
Classification: Coarse-loamy, mixed, superactive, thermic Typic Haplocalcids

Typical Pedon

A—0 to 2 inches; light brown (7.5YR 6/4) gravelly loamy sand, brown (7.5YR 5/4) moist; moderate thin platy structure; slightly hard, very friable, nonsticky and nonplastic; many very fine roots; many fine irregular pores; 20 percent gravel; slightly effervescent; moderately alkaline (pH 8.0); clear wavy boundary.

BA—2 to 9 inches; light brown (7.5YR 6/4) sandy loam, brown (7.5YR 4/4) moist; weak fine subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; many very fine roots; many very fine tubular pores; slightly effervescent; moderately alkaline (pH 8.0); clear wavy boundary.

Bk1—9 to 13 inches; light brown (7.5YR 6/4) sandy loam, brown (7.5YR 4/4) moist; weak fine subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; many very fine roots; many very fine tubular pores; 5 percent gravel; strongly effervescent, 15 percent calcium carbonate equivalent; few soft calcium carbonate masses; moderately alkaline (pH 8.2); abrupt wavy boundary.

Bk2—13 to 24 inches; pinkish gray (7.5YR 7/2) sandy loam, pinkish gray (7.5YR 6/2) moist; weak fine subangular blocky structure; slightly hard, friable, nonsticky and nonplastic; few fine roots; many very fine tubular pores; 10 percent gravel; violently effervescent; 15 percent calcium carbonate equivalent; 10 percent hard calcium carbonate nodules; few soft masses; moderately alkaline (PH 8.2); clear wavy boundary.

Bk3—24 to 34 inches; pinkish gray (7.5YR 7/2) gravelly sandy loam, light brown (7.5YR 6/4) moist; weak fine subangular blocky structure; hard, firm, nonsticky and nonplastic; many very fine roots; 25 percent gravel; violently effervescent; 40 percent calcium carbonate equivalent; continuous calcium carbonate coating on peds; common soft calcium carbonate masses; moderately alkaline (pH 8.2); clear wavy boundary.

Bk4—34 to 50 inches; light gray (10YR 7/2) very gravelly sandy loam, light brownish gray (10YR 6/2) moist; weak fine subangular blocky structure; hard, firm, nonsticky and nonplastic; many very fine tubular pores; 40 percent gravel; violently effervescent; 35 calcium carbonate equivalent; continuous calcium carbonate coatings on peds; few soft calcium carbonate masses; moderately alkaline (pH 8.2); clear wavy boundary.

C—50 to 60 inches; white (10YR 8/2) very gravelly sandy loam, light gray (10YR 7/2) moist; massive; hard, firm, nonsticky and nonplastic; common very fine tubular pores; 45 percent gravel; violently effervescent; 35 percent calcium carbonate equivalent; moderately alkaline (pH 8.0).

Type location: In an area of Kinley gravelly loamy sand, 15 to 35 percent slopes; about 1,950 feet west and 2,100 feet south of the northeast corner of sec. 8, T. 18 N., R. 13 W.

Range in Characteristics

Reaction: slightly or moderately alkaline
Depth to the calcic horizon: 5 to 20 inches
Calcium carbonate equivalent: 15 to 40 percent
Rock fragments: average 15 to 35 percent gravel in the particle-size control section

A horizon
Hue: 10YR, 7.5YR
Value: 5 or 6 dry, 3 to 5 moist
Chroma: 3 or 4, dry or moist
Texture: loamy sand, sandy loam
Rock fragments: less than 35 percent gravel

BA horizon
Hue: 10YR, 7.5YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 3 or 4, dry or moist

Bk horizons
Hue: 10YR, 7.5YR
Value: 6 to 7 dry, 4 to 6 moist
Chroma: 2 to 4, dry or moist
Clay content: 5 to 18 percent

Kopie family

Depth class: shallow to bedrock (lithic)
Drainage class: well drained
Permeability: moderately rapid
Landform: hills
Parent material: alluvium derived from granite over residuum weathered from granite
Slope: 5 to 35 percent
Elevation: 5,000 to 5,500 feet
Mean annual precipitation: 14 to 18 inches
Mean annual air temperature: 48 to 52 degrees F
Frost-free period: 135 to 150 days
Classification: Loamy, mixed, active, mesic Lithic Haplustepts

Typical Pedon

A—0 to 2 inches; brown (10YR 4/3) gravelly sandy loam, dark brown (10YR 3/3) moist; weak fine granular structure; slightly hard, very friable, nonsticky and nonplastic; many very fine roots; many very fine irregular pores; 20 percent gravel; noneffervescent; slightly alkaline (pH 7.6); abrupt smooth boundary.

Bw—2 to 16 inches; yellowish brown (10YR 5/4) gravelly sandy loam, dark yellowish brown (10YR 4/4) moist; weak fine subangular blocky structure; hard, very friable, nonsticky and nonplastic; many very fine roots; common very fine tubular pores; 30 percent gravel; noneffervescent; slightly alkaline (pH 7.6); abrupt smooth boundary.

2R—16 inches; granite bedrock.

Type location: In an area of Rock outcrop-Valena-Kopie family complex, 5 to 35 percent slopes; about 95 feet south and 600 feet east of the northwest corner of sec. 3, T. 21 N., R. 11 W.

Range in Characteristics

Use of the "Kopie family" reference term is a convention to reduce name length and implies no specific use of a soil series, reduced mapping intensity, or range of properties beyond that which is described in the map unit description and database. Use, management, and interpretations are not affected.

Rock fragments: 5 to 35 percent

A horizon:
Hue: 7.5YR, 10YR
Value: 4 or 5 dry, 3 or 4 moist
Chroma: 3 or 4, dry or moist

B horizon:
Hue: 7.5YR, 10YR
Value: 4 or 5 dry, 3 or 4 moist
Chroma: 3 or 4, dry or moist

Kurstan family

Depth class: very deep
Drainage class: well drained
Permeability: moderately rapid
Landform: fan terraces
Parent material: alluvium derived from mixed rock sources
Slope: 0 to 6 percent
Elevation: 2,800 to 3,200 feet
Mean annual precipitation: 9 to 12 inches
Mean annual air temperature: 59 to 64 degrees F
Frost-free period: 200 to 230 days
Classification: Coarse-loamy, mixed, superactive, thermic Durinodic Haplocalcids

Typical Pedon

A—0 to 2 inches; yellowish brown (10YR 5/4) sandy loam, dark yellowish brown (10YR 4/4) moist; weak thin platy structure; slightly hard, very friable, nonsticky and nonplastic; common fine roots; many very fine irregular pores; slightly effervescent, 6 percent calcium carbonate equivalent; moderately alkaline (pH 8.2); abrupt smooth boundary.

Bw—2 to 15 inches; yellowish brown (10YR 5/4) sandy loam, dark yellowish brown (10YR 4/4) moist; weak fine subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; common fine roots; common very fine tubular pores; strongly effervescent, 7 percent calcium carbonate equivalent; moderately alkaline (pH 8.2); clear wavy boundary.

Bk—15 to 29 inches; very pale brown (10YR 7/3) sandy loam, pale brown (10YR 6/3) moist; weak fine subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; common very fine roots; common very fine tubular pores; few fine soft calcium carbonate masses; violently effervescent, 16 percent calcium carbonate equivalent; moderately alkaline (pH 8.4); clear wavy boundary.

Bkqn1—29 to 42 inches; pale brown (10YR 6/3) sandy loam, yellowish brown (10YR 5/4) moist; moderate fine subangular blocky structure; slightly hard, very friable, slightly sticky and nonplastic; common fine roots; common very fine tubular pores; few fine soft calcium carbonate masses; weakly cemented by silica and calcium carbonate; violently effervescent, 15 percent calcium carbonate equivalent; strongly alkaline (pH 8.6); clear wavy boundary.

Bkqn2—42 to 60 inches; light yellowish brown (10YR 6/4) clay loam, yellowish brown (10YR 5/4) moist; moderate fine subangular blocky structure; hard, friable, sticky and plastic; few very fine roots; common very fine tubular pores; weakly cemented by silica and calcium carbonate; violently effervescent, 15 percent calcium carbonate equivalent; very strongly alkaline (pH 9.2).

Type location: In an area of Shortbread-Kurstan family-Dusty complex, 0 to 7 percent slopes; about 1,100 feet south and 2,700 feet east of the northwest corner of sec. 36, T. 26 N., R. 17 W.

Range in Characteristics

Use of the "Kurstan family" reference term is a convention to reduce name length and implies no specific use of a soil series, reduced mapping

intensity, or range of properties beyond that which is described in the map unit description and database. Use, management, and interpretations are not affected.

Depth to calcic horizon: 5 to 19 inches
Depth to Bkq horizon: 25 to 40 inches

Control section
Clay content: 8 to 18 percent

A horizon
Value: 5 to 7 dry, 4 to 6 moist
Chroma: 3 or 4, dry or moist

Bkqn horizons
Value: 5 to 7 dry, 4 to 6 moist
Chroma: 3 or 4, dry or moist
Rock fragments: 0 to 35 percent
Calcium carbonate equivalent: averages 15 to 35 percent
Cementation: 20 to 30 percent durinodes and discontinuous pockets that are strongly cemented by calcium carbonate and silica. The remainder of the matrix is either continuously or discontinuously weakly cemented by calcium carbonate.

Kydestea Series

Depth class: very shallow and shallow to bedrock (lithic)
Drainage class: well drained
Permeability: moderately slow
Landform: hills
Parent material: alluvium derived from limestone
Slope: 5 to 40 percent
Elevation: 5,000 to 5,600 feet
Mean annual precipitation: 14 to 18 inches
Mean annual air temperature: 48 to 52 degrees F
Frost-free period: 135 to 150 days
Classification: Loamy-skeletal, mixed, superactive, calcareous, mesic Aridic Lithic Ustorthents

Typical Pedon

A—0 to 2 inches; brown (7.5YR 4/4) extremely gravelly loam, dark brown (7.5YR 3/3) moist; weak fine granular structure; slightly hard, very friable; slightly sticky and slightly plastic; many very fine roots; many very fine irregular pores; 60 percent gravel, 10 percent cobble; slightly effervescent; moderately alkaline (pH 8.0); abrupt smooth boundary.

Bw—2 to 4 inches; brown (7.5YR 4/4) extremely cobbly loam, dark brown (7.5YR 3/3) moist; weak fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine roots; many fine and medium tubular pores; 10 percent gravel, 60 percent cobble; slightly effervescent; moderately alkaline (pH 8.0); abrupt wavy boundary.

Ck1—4 to 10 inches; brown (7.5YR 4/4) extremely cobbly silty clay loam, dark brown (7.5YR 3/3) moist; moderate fine subangular blocky structure; hard, friable, slightly sticky and slightly plastic; many very fine roots; common very fine tubular pores; 10 percent gravel, 60 percent cobble; strongly effervescent; moderately alkaline (pH 8.2); clear wavy boundary.

Ck2—10 to 15 inches; brown (7.5YR 4/3) extremely cobbly silty clay loam, dark brown (7.5YR 3/3) moist; moderate fine subangular blocky structure; hard, friable, slightly sticky and slightly plastic; many very fine roots; common very fine tubular pores; 10 percent gravel, 60 percent cobble; violently effervescent; moderately alkaline (pH 8.2); abrupt smooth boundary.

2R—15 inches; limestone bedrock.

Type location: In an area of Wodomont-Kydestea complex, 5 to 40 percent slopes; about 1,960 feet north and 985 feet west of the southeast corner of sec. 24, T. 22 N., R. 11 W.

Range in Characteristics

Rock fragments: 35 to 75 percent
Clay content: averages 18 to 35 percent clay in the control section
Calcium carbonate equivalent: less than 15 percent

A horizon
Hue: 10YR, 7.5YR
Value: 4 to 7 dry, 3 to 5 moist
Chroma: 3 to 6, dry or moist

Lampshire Series

Depth class: very shallow and shallow to bedrock (lithic)
Drainage class: well drained
Permeability: moderate or moderately rapid
Landform: hills and mountains
Parent material: alluvium and colluvium derived from igneous rock
Slope: 20 to 70 percent
Elevation: 3,400 to 6,800 feet
Mean annual precipitation: 12 to 16 inches
Mean annual air temperature: 50 to 64 degrees F
Frost-free period: 170 to 210 days
Classification: Loamy-skeletal, mixed, superactive, nonacid, thermic Lithic Ustic Torriorthents

Typical Pedon

A—0 to 1 inch; yellowish brown (10YR 5/4) gravelly coarse sandy loam, dark yellowish brown (10YR 4/4) moist; soft, very friable, nonsticky and nonplastic;

common very fine roots; few very fine vesicular pores; 15 percent gravel; noneffervescent; neutral (pH 7.0); abrupt smooth boundary.

C—1 to 6 inches; yellowish brown (10YR 5/4) very gravelly sandy loam, yellowish brown (10YR 5/4) moist; soft, very friable, nonsticky and nonplastic; common very fine roots; few very fine vesicular pores; 45 percent gravel; noneffervescent; neutral (pH 7.0); clear smooth boundary.

2Cr—6 to 17 inches; weathered granite bedrock.

2R—17 inches; granite bedrock.

Type location: In an area of Lampshire-Rock outcrop complex, 30 to 70 percent slopes; about 2,750 feet east and 2,450 feet south of the northwest corner of sec. 16, T. 20 N., R. 12 W.

Range in Characteristics

Depth to bedrock: 4 to 20 inches

A horizon
Value: 3 or 4 moist
Texture: sandy loam, loam, coarse sandy loam

C horizons
Rock fragments: 35 to 70 percent
Texture: sandy loam, coarse sandy loam, loam

Lithic Haplustolls

Depth class: very shallow and shallow to bedrock
Drainage class: well drained
Permeability: moderate
Landform: fan terraces
Parent material: alluvium derived from limestone
Slope: 1 to 40 percent
Elevation: 5,100 to 5,300 feet
Mean annual precipitation: 14 to 18 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 135 to 150 days
Classification: Lithic Haplustolls

Typical Pedon

A1—0 to 2 inches; brown (10YR 4/3) very cobbly loam, dark brown (10YR 3/3) moist; moderate fine granular structure; soft, very friable, slightly sticky and slightly plastic; few large and many very fine, fine, and medium roots; few fine interstitial pores; 20 percent pebbles, 20 percent cobbles, and 5 percent stones; neutral (pH 7.0); clear smooth boundary.

A2—2 to 15 inches; brown (10YR 5/3) very cobbly loam, dark brown (10YR 3/3) moist; moderate fine granular structure; soft, friable, slightly sticky and slightly plastic; few large and many very fine, fine, and medium roots; common fine tubular pores; 20 percent pebbles, 30 percent cobbles, and 5 percent stones; neutral (pH 7.0); abrupt smooth boundary.

R—15 inches; limestone bedrock.

Type location: In an area of Aridic Argiustolls-Lithic Haplustolls Complex, 1 to 40 percent slopes. About 1,100 feet south and 800 feet east of the northwest corner of sec. 21, T. 22 N., R. 10 W.

Range in Characteristics

Soils in this landscape position are highly variable with respect to depth, texture, color and/or chemical properties. Therefore physical and chemical properties of specific horizons are not given and interpretations such as erodibility are not determined. The taxonomic unit description is representative of what may be found in this landscape position.

Lostman Series

Depth class: very deep
Drainage class: well drained
Permeability: moderately rapid
Landform: stream terraces
Parent material: alluvium derived from mixed rock sources
Slope: 1 to 5 percent
Elevation: 2,400 to 3,400 feet
Mean annual precipitation: 6 to 12 inches
Mean annual air temperature: 59 to 70 degrees F
Frost-free period: 200 to 280 days
Classification: Coarse-loamy, mixed, superactive, thermic Typic Haplocambids

Typical Pedon

A—0 to 2 inches; brown (7.5YR 5/3) sandy loam, brown (7.5YR 4/3) moist; moderate fine platy structure; soft, friable, nonsticky and nonplastic; common fine roots; many fine vesicular pores; 10 percent gravel, 2 percent cobbles; noneffervescent; slightly alkaline (pH 7.4); abrupt wavy boundary.

Bw1—2 to 12 inches; brown (7.5YR 5/4) fine sandy loam, brown (7.5YR 4/4) moist; weak medium subangular blocky structure; soft, friable, nonsticky and nonplastic; common fine roots; many very fine tubular pores; 2 percent gravel; slightly effervescent; slightly alkaline (pH 7.6); clear wavy boundary.

Bw2—12 to 27 inches; brown (7.5YR 5/4) sandy loam, brown (7.5YR 4/4) moist; weak medium subangular blocky structure; soft, friable, nonsticky and nonplastic; few very fine roots; common fine tubular pores; 5 percent gravel; common fine soft calcium carbonate masses and calcium carbonate

coatings on undersides of gravel; slightly effervescent; slightly alkaline (pH 7.6); abrupt wavy boundary.

C1—27 to 38 inches; brown (7.5YR 5/4) loam, brown (7.5YR 4/4) moist; massive; slightly hard, friable, nonsticky and slightly plastic; few fine roots; common fine tubular pores; 5 percent gravel; strongly effervescent; slightly alkaline (7.8); abrupt wavy boundary.

C2—38 to 60 inches; light brown (7.5YR 6/4) very gravelly sandy loam, brown (7.5YR 5/4) moist; massive; soft, friable, nonsticky and nonplastic; few fine roots; few fine tubular pores; 50 percent gravel; strongly effervescent; slightly alkaline (pH 7.8).

Type location: In an area of Lostman sandy loam, 1 to 3 percent slopes; 1,780 feet south and 750 feet west of the northeast corner of sec. 1, T. 20 N., R. 18 W.

Range in Characteristics

Rock fragments: average 15 to 35 percent, dominantly gravel in the control section. The upper ten inches may contain less than 15 percent gravel. Below 40 inches, the substratum may contain more than 35 percent.

A horizon
Hue: 7.5YR, 10YR
Value: 4 or 5 dry, 3 or 4 moist
Chroma: 3 or 4, dry or moist

Bw horizons
Hue: 7.5YR, 10YR
Value: 4 to 6 dry, 3 to 5 moist
Chroma: 3 to 5, dry or moist
Texture: loam, sandy loam, fine sandy loam
Reaction: slightly to moderately alkaline

C horizons
Texture: sandy loam, loam, loamy coarse sand

Luzena Series

Depth class: very shallow and shallow to bedrock (lithic)
Drainage class: well drained
Permeability: slow
Landform: hills and mesas
Parent material: alluvium derived from basalt over residuum weathered from basalt
Slope: 3 to 20 percent
Elevation: 4,900 to 5,400 feet
Mean annual precipitation: 14 to 18 inches
Mean annual air temperature: 48 to 52 degrees F
Frost-free period: 135 to 150 days
Classification: Clayey, smectitic, mesic Aridic Lithic Argiustolls

Typical Pedon

A1—0 to 1 inch; dark brown (10YR 3/3) extremely cobbly loam, dark brown (7.5YR 3/2) moist; moderate fine granular structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine roots; many very fine interstitial pores; 20 percent gravel, 40 percent cobble, and 10 percent stone; noneffervescent; neutral (pH 7.2); abrupt smooth boundary.

A2—1 to 2 inches; very dark grayish brown (10YR 3/2) extremely cobbly clay loam, dark brown (7.5YR 3/2) moist; strong very fine granular structure; slightly hard, very friable, moderately sticky and moderately plastic; common fine roots; many very fine interstitial pores; 20 percent gravel, 40 percent cobble, and 5 percent stone; noneffervescent; neutral (pH 7.2); abrupt smooth boundary.

Bt—2 to 14 inches; dark brown (7.5YR 3/2) clay, dark brown (7.5YR 3/2) moist; strong medium angular blocky structure; hard, firm, very sticky and very plastic; common fine roots; common very fine tubular pores; many moderately thick clay films on faces of peds and lining pores; 5 percent gravel, 5 percent cobble; noneffervescent; neutral (pH 7.2); abrupt smooth boundary.

2R—14 inches; basalt bedrock.

Type location: In an area of Luzena-Thunderbird complex, 3 to 20 percent slopes; about 3,880 feet north and 2,700 feet west of the southeast corner of sec. 30, T. 28 N., R. 15 W.

Range in Characteristics

Rock fragments: less than 35 percent in the particle-size control section

A horizon
Hue: 7.5YR, 10YR
Value: 3 to 5 dry, 2 or 3 moist
Chroma: 2 or 3, dry or moist

Bt horizon
Hue: 5YR, 7.5YR
Value: 3 or 4 dry, 2 or 3 moist
Chroma: 2 or 3, dry or moist
Texture: clay, silty clay, clay loam, silty clay loam (35 to 60 percent clay)

Lykorly Series

Depth class: very deep
Drainage class: well drained
Permeability: slow
Landform: stream terraces
Parent material: alluvium derived from limestone

Slope: 1 to 5 percent
Elevation: 5,400 to 6,500 feet
Mean annual precipitation: 14 to 18 inches
Mean annual air temperature: 52 to 54 degrees F
Frost-free period: 130 to 160 days
Classification: Fine-loamy, mixed, superactive, mesic Aridic Haplustalfs

Typical Pedon

A—0 to 1 inch; light brown (7.5YR 6/4) gravelly loam, brown (7.5YR 5/4) moist; weak thick platy structure; soft, very friable, nonsticky and nonplastic; many very fine roots; many very fine vesicular pores; 15 percent angular gravel; noneffervescent; slightly acid (pH 6.4); abrupt smooth boundary.

E—1 to 2 inches; light yellowish brown (10YR 6/4) loam, yellowish brown (10YR 5/4) moist; weak thick platy structure; slightly hard, very friable, sticky and plastic; many very fine roots; many very fine vesicular pores; noneffervescent; slightly acid (pH 6.4); abrupt smooth boundary.

Bw—2 to 4 inches; dark yellowish brown (10YR 4/4) loam, dark yellowish brown (10YR 3/4) moist; weak fine subangular blocky structure parting to moderate fine granular; slightly hard, friable, sticky and plastic; many very fine roots; many very fine tubular pores; noneffervescent; slightly acid (pH 6.4); clear smooth boundary.

2Bt1—4 to 11 inches; dark yellowish brown (10YR 4/4) and brown (7.5YR 5/4) clay loam, dark yellowish brown (10YR 3/4) and brown (7.5YR 4/4) moist; moderate fine prismatic structure parting to moderate fine subangular blocky; hard, very firm, very sticky and very plastic; many very fine roots; many very fine tubular pores; common stress cutans and clay bridging sand grains; organic matter stains along planar voids; noneffervescent; slightly acid (pH 6.5); clear smooth boundary.

2Bt2—11 to 25 inches; dark yellowish brown (10YR 4/4) and brown (7.5YR 5/4) clay loam, dark yellowish brown (10YR 3/4) and brown (7.5YR 4/4) moist; weak medium prismatic structure parting to weak medium subangular blocky; hard, firm, sticky and plastic; common very fine roots; many very fine tubular pores; common clay bridges between sand grains and argillans on skeleton grains; noneffervescent; neutral (pH 7.0); clear smooth boundary.

2Btk—25 to 31 inches; brown (10YR 5/3) loam, brown (10YR 4/3) moist; weak medium subangular blocky structure; hard, firm, sticky and plastic; common very fine roots; many very fine tubular pores; clay bridging sand grains; strongly effervescent, 2 percent calcium carbonate equivalent; slightly alkaline (pH 7.4); clear smooth boundary.

3Bk—31 to 44 inches; brown (7.5YR 5/4) loam, brown (7.5YR 4/4) moist; weak medium subangular blocky structure; hard, firm, sticky and plastic; common fine roots; many very fine tubular pores; few soft calcium carbonate accumulations; strongly effervescent, 1 percent calcium carbonate equivalent; moderately alkaline (pH 8.0); clear smooth boundary.

4Btkb—44 to 60 inches; yellowish red (5YR 5/6) clay, yellowish red (5YR 5/6) moist; moderate coarse prismatic structure parting to moderate medium subangular blocky; very hard, very firm, very sticky and very plastic; few fine roots; few fine tubular pores; many stress cutans; argillans around skeleton grains; strongly effervescent, common fine soft calcium carbonate accumulations, 2 percent calcium carbonate equivalent; slightly alkaline (pH 7.8).

Type location: In an area of Lykorly gravelly loam, 1 to 4 percent slopes; about 1,450 feet west and 2,875 feet south of the northeast corner of sec. 20, T. 29 N., R. 6 W.

Range in Characteristics

Depth to argillic horizon: 3 to 10 inches
Rock fragments: less than 5 percent in the control section
Calcium carbonate equivalent: less than 15 percent

A horizon
Hue: 7.5YR, 10YR
Value: 4 to 6 dry, 3 to 5 moist
Chroma: 3 or 4, dry or moist

Bt horizons
Hue: 7.5YR, 10YR
Value: 4 to 6 dry, 3 or 4 moist
Chroma: 3 or 4, dry or moist
Texture: loam, silt loam, clay loam
Clay content: 20 to 35 percent clay
Reaction: slightly acid to moderately alkaline

Manikan Taxadjunct

Depth class: very deep
Drainage class: well drained
Permeability: moderately slow
Landform: stream terraces
Parent material: alluvium derived from mixed rock sources
Slope: 1 to 6 percent

Elevation: 5,000 to 5,200 feet
Mean annual precipitation: 14 to 18 inches
Mean annual air temperature: 48 to 52 degrees F
Frost-free period: 135 to 150 days
Classification: Fine-loamy, mixed, superactive, nonacid, mesic Aridic Ustifluvents

Typical Pedon

A—0 to 3 inches; brown (7.5YR 4/2) sandy loam, dark brown (7.5YR 3/2) moist; weak fine granular structure; slightly hard, very friable, slightly sticky and nonplastic; common very fine and fine roots; many very fine irregular pores; noneffervescent; slightly alkaline (pH 7.4); abrupt smooth boundary.

C1—3 to 24 inches; brown (7.5YR 4/3) sandy clay loam, dark brown (7.5YR 3/2) moist; massive; hard, friable, moderately sticky and slightly plastic; common very fine and fine roots; common very fine tubular pores; noneffervescent; slightly alkaline (pH 7.4); abrupt smooth boundary.

C2—24 to 39 inches; brown (7.5YR 4/3) sandy clay loam, dark brown (7.5YR 3/2) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; common very fine and fine roots; common very fine tubular pores; noneffervescent; slightly alkaline (pH 7.4); abrupt smooth boundary.

C3—39 to 60 inches; brown (7.5YR 4/3) loam, dark brown (7.5YR 3/3) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; common very fine and fine roots; common very fine tubular pores; slightly effervescent; slightly alkaline (pH 7.4).

Type location: In an area of Cordes-Manikan-Riverwash complex, 1 to 6 percent slopes; about 350 feet south and 1,000 feet east of the northwest corner of sec. 17, T. 21 N., R. 11. W.

Range in Characteristics

These soils are a taxadjunct to the Manikan Series. These soils are in the aridic ustic soil moisture regime and have a nonacid reaction class.

Rock fragments: average 0 to 15 percent in the particle-size control section
Organic carbon: greater than 0.2 percent below 50 inches

A horizon
Hue: 7.5YR, 10YR
Value: 3 or 4 dry, 2 or 3 moist
Chroma: 2 or 3, dry or moist

C horizons
Hue: 7.5YR, 10YR
Value: 4 or 5 dry, 3 or 4 moist
Chroma: 2 to 4, dry or moist
Texture: stratified sand, sandy loam, sandy clay loam, clay loam, loam

Mathis family

Depth class: very deep
Drainage class: excessively drained
Permeability: very rapid
Landform: flood plains
Parent material: alluvium derived from mixed rock sources
Slope: 1 to 4 percent
Elevation: 4,500 to 4,900 feet
Mean annual precipitation: 10 to 14 inches
Mean annual air temperature: 52 to 57 degrees F
Frost-free period: 180 to 200 days
Classification: Sandy-skeletal, mixed, mesic Ustic Torriorthents

Typical Pedon

C1—0 to 2 inches; yellowish brown (10YR 5/4) extremely cobbly sandy loam, dark brown (10YR 3/3) moist; weak thin platy structure parting to weak fine granular; slightly hard, very friable, nonsticky and nonplastic; few fine roots; common very fine tubular pores; 40 percent cobble, 20 percent stones, 20 percent gravel; slightly effervescent; neutral (pH 7.3); abrupt smooth boundary.

C2—2 to 60 inches; yellowish brown (10YR 5/4) extremely cobbly sand, dark brown (10YR 3/3) moist; single grained; loose, nonsticky and nonplastic; few fine roots; many very fine interstitial pores; 40 percent cobble, 20 percent stones, 20 percent gravel; slightly effervescent; slightly alkaline (pH 7.4).

Type location: In an area of Mathis family-Riverwash complex, 1 to 4 percent slopes; about 1,000 feet west and 200 feet north of the southeast corner of sec. 10, T. 23 N., R. 12 W.

Range in Characteristics

Use of the "Mathis family" reference term is a convention to reduce name length and implies no specific use of a soil series, reduced mapping intensity, or range of properties beyond that which is described in the map unit description and database. Use, management, and interpretations are not affected.

Rock fragments: 35 to 85 percent; dominantly cobble and stone
Reaction: neutral to slightly alkaline
Value: 5 or 6 dry, 3 or 4 moist
Chroma: 3 or 4, dry or moist

Mayswell Series

Depth class: very shallow and shallow to bedrock (lithic)
Drainage class: well drained
Permeability: slow
Landform: hills
Parent material: alluvium derived from basalt over residuum weathered from basalt
Slope: 5 to 40 percent
Elevation: 4,000 to 4,600 feet
Mean annual precipitation: 9 to 12 inches
Mean annual air temperature: 59 to 64 degrees F
Frost-free period: 200 to 280 days
Classification: Clayey-skeletal, smectitic, thermic Lithic Haplargids

Typical Pedon

A—0 to 2 inches; dark yellowish brown (10YR 4/4) cobbly clay loam, dark yellowish brown (10YR 3/4) moist; moderate fine granular structure; slightly hard, very friable, sticky and slightly plastic; common very fine roots; few very fine irregular pores; 5 percent gravel, 25 percent cobble; neutral (pH 7.2); abrupt smooth boundary.

Bw—2 to 4 inches; dark yellowish brown (10YR 4/4) cobbly clay loam, dark yellowish brown (10YR 3/4) moist; moderate fine subangular blocky structure; slightly hard, very friable, sticky and plastic; common fine roots; few very fine irregular pores; 5 percent gravel, 25 percent cobble; slightly alkaline (pH 7.6); abrupt smooth boundary.

Bt1—4 to 9 inches; brown (7.5YR 4/4) very cobbly clay loam, dark brown (7.5YR 3/4) moist; moderate fine subangular blocky structure; slightly hard, friable, very sticky and very plastic; common very fine roots; few very fine tubular pores; common faint clay films lining pores and on ped faces; 25 percent gravel, 25 percent cobble; slightly alkaline (pH 7.8); clear wavy boundary.

2Bt2—9 to 19 inches; red (2.5YR 4/6) very cobbly clay, red (2.5YR 4/6) moist; moderate medium angular blocky structure; hard, very firm, very sticky and very plastic; common very fine roots; common distinct clay films on ped faces; common pressure faces; 20 percent gravel, 20 percent cobble; moderately alkaline (pH 8.0); abrupt wavy boundary.

2R—19 inches; basalt bedrock.

Type location: In an area of Mayswell-Rock outcrop complex, 5 to 40 percent slopes; about 1,000 feet south and 2,700 feet east of the northwest corner of sec. 23, T. 22 N., R. 20 W.

Range in Characteristics

Rock fragments: 20 to 30 percent gravel, and 10 to 30 percent cobble
Reaction: neutral or moderately alkaline
Clay content: averages 35 to 45 percent in the particle-size control section
Organic matter: less than one percent

A horizon
Hue: 7.5YR, 10YR
Value: 4 or 5, dry or moist
Effervescence: noneffervescent to strong

B horizons
Hue: 5YR, 7.5YR, 10YR
Value: 4 to 6, dry or moist
Chroma: 4 to 6, dry or moist
Effervescence: noneffervescent to strong

McAllister family

Depth class: very deep
Drainage class: well drained
Permeability: moderately slow
Landform: fan terraces
Parent material: alluvium derived from igneous and metamorphic rock
Slope: 2 to 15 percent
Elevation: 3,500 to 4,500 feet
Mean annual precipitation: 9 to 12 inches
Mean annual air temperature: 59 to 64 degrees F
Frost-free period: 170 to 230 days
Classification: Fine-loamy, mixed, superactive, thermic Ustic Calciargids

Typical Pedon

A—0 to 2 inches; brown (10YR 4/3) gravelly sandy loam, dark brown (10YR 3/3) moist; weak medium platy structure parting to weak very fine subangular blocky; soft, very friable, slightly sticky and nonplastic; common very fine and few fine and medium roots; few very fine irregular pores; 30 percent gravel; noneffervescent; moderately alkaline (pH 8.0); abrupt smooth boundary.

Bt—2 to 12 inches; strong brown (7.5YR 5/6) gravelly sandy clay loam, brown (7.5YR 4/4) moist; weak medium and coarse subangular blocky structure; moderately hard, friable, moderately sticky and moderately plastic; few fine through coarse roots; few very fine irregular pores; many faint clay films bridging sand grains, few faint clay films lining pores; 25

percent gravel; noneffervescent; moderately alkaline (pH 8.0); clear smooth boundary.

Btkn—12 to 26 inches; reddish yellow (7.5YR 6/6) gravelly sandy clay loam, strong brown (7.5YR 4/6) moist; moderate medium subangular blocky structure; slightly hard; very friable, slightly sticky and nonplastic; few very fine through coarse roots; common very fine irregular pores; common prominent clay films lining root channels, few prominent clay films lining pores; strongly effervescent; strongly alkaline (pH 8.6); abrupt smooth boundary.

2Btk—26 to 37 inches; brown (7.5YR 5/4) very gravelly coarse sandy loam, brown (7.5YR 5/4) moist; massive; slightly hard, very friable, nonsticky and nonplastic; common very fine and fine and few coarse roots; many very fine irregular pores; common faint clay films bridging sand grains and lining pores; 55 percent gravel; strongly effervescent; moderately alkaline (pH 8.4); clear wavy boundary.

2Bkn—37 to 53 inches; white (10YR 8/1) extremely gravelly sandy loam, very pale brown (10YR 8/3) moist; massive; slightly hard to very hard, very friable to firm; slightly sticky and nonplastic; few fine roots; extremely weakly to moderately cemented with calcium carbonate; 31 percent calcium carbonate equivalent; 60 percent gravel; violently effervescent; strongly alkaline (pH 8.6); clear smooth boundary.

2Ck—53 to 60 inches; yellowish brown (10YR 5/6) very gravelly loamy coarse sand, yellowish brown (10YR 5/6) moist; massive; slightly hard, very friable, nonsticky and nonplastic; few fine and medium roots; many very fine irregular pores; few coarse and very coarse calcium carbonate masses; 40 percent gravel; slightly effervescent matrix; moderately alkaline (pH 8.0).

Type location: In an area of Stronghold-McAllister families complex, 2 to 15 percent slopes; 35 degrees, 9 minutes, 59.7 seconds north latitude; 113 degrees, 43 minutes; 43.7 seconds west longitude.

Range in Characteristics

Use of the "McAllister family" reference term is a convention to reduce name length and implies no specific use of a soil series, reduced mapping intensity, or range of properties beyond that which is described in the map unit description and database. Use, management, and interpretations are not affected.

Rock fragments: less than 35 percent in the particle-size control section

A horizon
Hue: 7.5YR, 10YR
Value: 3 to 5, dry or moist
Chroma: 3 or 4, dry or moist

Bt horizons
Hue: 5YR, 7.5YR
Value: 4 to 6 dry, 3 to 5 moist
Chroma: 4 or 6, dry or moist
Texture: sandy loam, sandy clay loam, loam, sandy loam
Clay content: 18 to 35 percent in the particle-size control section
Reaction: neutral to strongly alkaline

Bk and Ck horizons
Hue: 10YR, 7.5YR
Value: 5 to 8, dry or moist
Chroma: 1 to 6, dry or moist
Texture: loamy coarse sand, loamy sand, coarse sandy loam, sandy loam
Clay content: 4 to 14 percent
Calcium carbonate equivalent: 15 to 35 percent
Reaction: moderately to strongly alkaline

Some pedons do not have a C or Ck horizon.

Meadview Series

Depth class: very deep
Drainage class: well drained
Permeability: moderately rapid
Landform: fan terraces
Parent material: alluvium derived from mixed rock sources
Slope: 4 to 40 percent
Elevation: 2,800 to 4,000 feet
Mean annual precipitation: 9 to 12 inches
Mean annual air temperature: 59 to 70 degrees F
Frost-free period: 200 to 280 days
Classification: Sandy-skeletal, mixed, thermic Durinodic Haplocalcids

Typical Pedon

A—0 to 2 inches; brown (10YR 5/3) very cobbly sandy loam, brown (10YR 4/3) moist; moderate thin platy structure; soft, very friable, nonsticky and nonplastic; many very fine roots; many fine tubular pores; 30 percent gravel, 20 percent cobble, 5 percent stone; strongly effervescent, 11 percent calcium carbonate equivalent; moderately alkaline (pH 8.0); abrupt smooth boundary.

Bk1—2 to 10 inches; brown (10YR 5/3) very cobbly sandy loam, brown (10YR 4/3) moist; weak fine subangular blocky structure; slightly hard, very friable, slightly sticky and nonplastic; many fine roots; few very fine and fine tubular pores; 30 percent gravel, 20

percent cobble, 5 percent stone; common decomposed fragments of granite; strongly effervescent, 16 percent calcium carbonate equivalent, 1/8- to 1/2-inch-thick calcium carbonate pendants on the underside of rock fragments; moderately alkaline (pH 8.0); clear wavy boundary.

Bk2—10 to 21 inches; brown (10YR 5/3) very cobbly sandy loam, brown (10YR 4/3) moist; weak fine subangular blocky structure; slightly hard, very friable, slightly sticky and nonplastic; many fine roots; few very fine and fine tubular pores; 30 percent gravel, 20 percent cobble, 5 percent stone; common decomposed fragments of granite; violently effervescent, few fine soft calcium carbonate masses, 19 percent calcium carbonate equivalent, 1/8- to 1/2-inch-thick calcium carbonate pendants on the underside of rock fragments; moderately alkaline (pH 8.0); abrupt smooth boundary.

Bkq1—21 to 31 inches; brown (10YR 5/3) extremely gravelly coarse sand, brown (10YR 4/3) moist; massive; slightly hard to hard, firm to very firm, nonsticky and nonplastic; few very fine roots; many very fine irregular pores; 50 percent gravel, 20 percent cobble; brittle discontinuous lenses of silica and calcium carbonate cemented material; slightly effervescent, few areas in matrix are violently effervescent, 1/8- to 1/2-inch calcium carbonate pendants on the underside of rock fragments; moderately alkaline (pH 8.0); abrupt wavy boundary.

Bkq2—31 to 42 inches; brown (10YR 5/3) extremely gravelly coarse sand, brown (10YR 4/3) moist; massive; very hard, firm and brittle, nonsticky and nonplastic; 50 percent gravel, 20 percent cobble; slightly effervescent; moderately alkaline (pH 8.0); abrupt wavy boundary.

Bkq3—42 to 52 inches; brown (10YR 5/3) extremely gravelly coarse sand, brown (10YR 4/3) moist; massive; extremely hard and very hard, very firm, nonsticky and nonplastic; few very fine roots; many very fine irregular pores; 50 percent gravel, 20 percent cobble; slightly effervescent; moderately alkaline (pH 8.0); abrupt wavy boundary.

C—52 to 60 inches; pale brown (10YR 6/3) stratified extremely gravelly coarse sand, brown (10YR 5/3) moist; slightly hard, very friable, nonsticky and nonplastic; few very fine roots; many very fine irregular pores; 50 percent gravel, 20 percent cobble; slightly effervescent; moderately alkaline (pH 8.0).

Type location: In an area of Meadview-Yurm family complex, 4 to 25 percent slopes; about 1,500 feet west and 2,000 west of the northeast corner of sec. 7, T. 29 N, R. 16 W.

Range in Characteristics

Rock fragments: 35 to 75 percent gravel, cobble, and stone
Clay content: 5 to 18 percent in the Bk. Averages less than 10 percent in the control section
Depth to calcic horizon: 2 to 18 inches
Depth to gravel and sand: 20 to 30 inches
Depth to brittle silica and calcium carbonate cemented materials: 14 to 40 inches
Calcium carbonate equivalent: 5 to 30 percent
Reaction: slightly or moderately alkaline
Effervescence: strong or violent

A horizon
Hue: 10YR, 7.5YR
Value: 5 to 7 dry, 4 and 5 moist
Chroma: 3 to 6, dry and moist

Bk and Bkq horizons
Hue: 10YR, 7.5YR
Value: 5 to 8 dry, 4 to 6 moist
Chroma: 3 to 6, dry and moist

C horizons
Value: 5 or 6 dry, 4 or 5 moist

Meriwhitica Series

Depth class: very shallow to bedrock (lithic)
Drainage class: well drained
Permeability: moderate
Landform: mesas and plateaus
Parent material: alluvium derived from limestone over residuum weathered from limestone
Slope: 5 to 35 percent
Elevation: 4,600 to 4,800 feet
Mean annual precipitation: 10 to 14 inches
Mean annual air temperature: 52 to 57 degrees F
Frost-free period: 135 to 175 days
Classification: Loamy-skeletal, mixed, superactive, calcareous, mesic Lithic Ustic Torriorthents

Typical Pedon

A—0 to 1 inch; pale brown (10YR 6/3) very gravelly sandy loam, brown (10YR 4/3) moist; moderate thick platy structure parting to moderate fine granular; slightly hard, very friable, slightly sticky and nonplastic; common very fine and few fine roots; many very fine and few fine irregular pores; 45 percent gravel; violently effervescent, moderately alkaline (pH 8.2); abrupt wavy boundary.

Bk—1 to 6 inches; yellowish brown (10YR 5/4) very gravelly sandy loam, dark yellowish brown (10YR 4/4)

moist; moderate medium subangular blocky structure; hard, friable, slightly sticky and slightly plastic; common very fine, fine and few coarse roots; many very fine and few fine tubular pores; 45 percent gravel; few thin calcium carbonate coatings in pores and on ped faces and common thin coatings on rock fragments; violently effervescent; moderately alkaline (pH 8.2); abrupt wavy boundary.

R—6 inches; thin bedded, grey limestone bedrock.

Type location: In an area of Meriwhitica-Rock outcrop complex, 5 to 35 percent slopes; about 2,200 feet south and 200 feet east of the northwest corner of sec. 27, T. 27 N., R. 12 W.

Range in Characteristics

Particle-size control section:
Clay content: averages less than 18 percent
Rock fragments: 35 to 85 percent
Calcium carbonates equivalent: range from 5 to 40 percent

A horizon
Hue: 7.5YR, 10YR
Value: 3 to 6 dry, 3 to 5 moist
Chroma: 3 or 4, dry or moist

Bk horizon
Hue: 7.5YR, 10YR
Value: 5 or 6 dry, 3 to 5 moist
Chroma: 3 or 4, dry or moist
Texture: silt loam, sandy loam, loam
Clay content: averages less than 18 percent clay in the control section

Metuck Series

Depth class: very shallow and shallow to bedrock (lithic)
Drainage class: well drained
Permeability: moderately rapid
Landform: mesas and plateaus
Parent material: alluvium and colluvium derived from limestone
Slope: 25 to 45 percent
Elevation: 4,700 to 5,700 feet
Mean annual precipitation: 14 to 18 inches
Mean annual air temperature: 48 to 52 degrees F
Frost-free period: 135 to 150 days
Classification: Loamy-skeletal, mixed, superactive, calcareous, mesic Aridic Lithic Ustorthents

Typical Pedon

A—0 to 2 inches; brown (10YR 5/3) extremely cobbly sandy loam, brown (10YR 4/3) moist; weak thin platy structure; slightly hard, very friable, nonsticky and nonplastic; common very fine roots; common very fine tubular pores; 30 percent gravel, 30 percent cobble, and 5 percent stone; violently effervescent; moderately alkaline (pH 8.4); abrupt smooth boundary.

Bw—2 to 6 inches; yellowish brown (10YR 5/4) very gravelly sandy loam, brown (10YR 4/3) moist; weak fine subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; common very fine roots; common very fine tubular pores; 40 percent gravel, 5 percent cobble; violently effervescent; moderately alkaline (pH 8.4); abrupt smooth boundary.

2R—6 inches; limestone bedrock.

Type location: In an area of Wodomont-Metuck-Rock outcrop complex, 25 to 45 percent slopes; about 1,450 feet south and 1,500 feet west of the northeast corner of sec. 9, T. 26 N., R. 9 W.

Range in Characteristics

Rock fragments: 35 to 70 percent
Clay content: averages less than 18 percent
Calcium carbonate equivalent: 15 to 35 percent

A horizon
Value: 4 or 5 dry, 3 or 4 moist
Chroma: 3 or 6, dry or moist
Rock fragments: Ranges from 65 percent to 90 percent as a surface lag layer

Bw horizon
Value: 4 or 5 dry, 3 or 4 moist

Mextank Series

Depth class: very deep
Drainage class: well drained
Permeability: moderate
Landform: fan terraces
Parent material: alluvium derived from limestone
Slope: 2 to 15 percent
Elevation: 5,000 to 5,600 feet
Mean annual precipitation: 14 to 18 inches
Mean annual air temperature: 48 to 52 degrees F
Frost-free period: 135 to 150 days
Classification: Loamy-skeletal, mixed, superactive, mesic Aridic Calciustolls

Typical Pedon

A—0 to 2 inches; brown (7.5YR 5/3) very gravelly sandy loam, dark brown (7.5YR 3/2) moist; moderate thick platy structure; slightly hard, very friable, nonsticky and nonplastic; many very fine roots;

common very fine tubular and irregular pores; 45 percent gravel; violently effervescent; moderately alkaline (pH 8.2); abrupt smooth boundary.

Bw—2 to 11 inches; brown (7.5YR 5/3) very gravelly sandy clay loam, dark brown (7.5YR 3/2) moist; weak medium subangular blocky structure; soft, very friable, nonsticky and nonplastic; many very fine and fine roots; many very fine tubular and common very fine irregular pores; violently effervescent; 50 percent gravel; moderately alkaline (pH 8.2); clear smooth boundary.

Bk1—11 to 28 inches; brown (7.5YR 5/3) extremely gravelly sandy loam, dark brown (7.5YR 3/3) moist; weak medium subangular blocky structure; soft, very friable, nonsticky and nonplastic; common very fine, many fine, and few medium and coarse roots; common very fine irregular pores; common faint calcium carbonate coatings and thin pendants on rock fragments; 80 percent gravel; violently effervescent; moderately alkaline (pH 8.2); clear smooth boundary.

Bk2—28 to 46 inches; brown (7.5YR 5/2) extremely gravelly sandy loam, brown (7.5YR 4/3) moist; weak fine and medium subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; common fine and medium, few very fine and coarse roots; common fine tubular and common very fine irregular pores; common faint calcium carbonate coatings and many pendants on rock fragments; violently effervescent; 85 percent gravel; moderately alkaline (pH 8.0); clear smooth boundary.

Ck—46 to 60 inches; light brown (7.5YR 6/4) extremely gravelly sandy loam, strong brown (7.5YR 4/6) moist; massive; slightly hard, very friable, nonsticky and nonplastic; few fine and medium roots; common very fine and fine irregular pores; common faint calcium carbonate coatings and many pendants on rock fragments; 85 percent gravel; violently effervescent; moderately alkaline (pH 8.2).

Type location: In an area of Mextank very gravelly sandy loam, 2 to 15 percent slopes; about 2,000 feet south and 850 feet east of the northwest corner of sec. 30, T. 22 N., R. 11 W.

Range in Characteristics

Thickness of mollic epipedon: 10 to 20 inches
Depth to calcic horizon: 1 to 20 inches
Clay content: averages less than 18 percent in the control section
Rock fragments: 35 to 85 percent in the control section

A horizon
Hue: 10YR, 7.5YR
Value: 4 or 5 dry, 2 or 3 moist
Chroma: 2 or 3, dry or moist

Bk horizons
Hue: 10YR, 7.5YR
Value: 4 or 5 dry, 3 or 4 moist
Chroma: 2 or 3, dry or moist
Texture: sandy loam, loam, sandy clay loam
Calcium carbonate equivalent: 5 to 20 percent

Ck horizon
Hue: 10YR, 7.5YR
Value: 5 or 6 dry, 3 or 4 moist
Chroma: 4 to 6, dry or moist
Texture: sandy loam, loam, sandy clay loam

Milkweed Series

Depth class: shallow to petrocalcic
Drainage class: well drained
Permeability: moderate
Landform: fan terraces
Parent material: alluvium derived from mixed rock sources
Slope: 2 to 20 percent
Elevation: 4,600 to 5,500 feet
Mean annual precipitation: 14 to 16 inches
Mean annual air temperature: 52 to 54 degrees F
Frost-free period: 120 to 160 days
Classification: Loamy-skeletal, mixed, superactive, mesic, shallow Petrocalcic Calciustepts

Typical Pedon

A—0 to 2 inches; dark yellowish brown (10YR 4/4) extremely gravelly loam, dark brown (10YR 3/3) moist; weak thick platy structure parting to weak fine granular; soft, very friable, slightly sticky and slightly plastic; many very fine roots; many very fine irregular pores; 80 percent gravel as surface lag layer; violently effervescent, 27 percent calcium carbonate equivalent; slightly alkaline (pH 7.8); abrupt smooth boundary.

Bk1—2 to 8 inches; brown (10YR 4/3) very gravelly loam, dark brown (10YR 3/3) moist; weak medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; many very fine, many fine, and few medium roots; common very fine and few fine tubular pores; 40 percent gravel; few thin calcium carbonate coatings on rock fragments; violently effervescent, 16 percent calcium carbonate equivalent; moderately alkaline (pH 8.0); clear smooth boundary.

Bk2—8 to 11 inches; dark yellowish brown (10YR 4/4) very gravelly loam, dark yellowish brown (10YR 3/4) moist; weak fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine, common fine, few medium and coarse roots; common very fine and fine tubular pores; 45 percent gravel and 5 percent cobble, with few

hardpan fragments; common thin calcium carbonate coatings on rock fragments; violently effervescent, 23 percent calcium carbonate equivalent; moderately alkaline (pH 8.0); abrupt wavy boundary.

2Bkm1—11 to 28 inches; thin bedded, laminar capped, calcium carbonate cemented hardpan; widely fractured in upper 3 inches; few fine and medium roots in fractures; abrupt wavy boundary.

2Bkm2—28 to 60 inches; extremely hard, indurated, calcium carbonate cemented hardpan.

Type location: In an area of Milkweed-Quartermaster-Buckndoe complex, 2 to 20 percent slopes; about 1,600 feet north and 2,400 feet east of the southwest corner of sec. 13, T. 26 N., R. 14 W.

Range in Characteristics

Depth to petrocalcic horizon: 10 to 20 inches
Calcium carbonate equivalent: averages 15 to 40 percent in the calcic horizon

Bk horizon
Textures: loam, fine sandy loam

Milok Series

Depth class: very deep
Drainage class: well drained
Permeability: moderately rapid
Landform: fan terraces
Parent material: alluvium derived from limestone
Slope: 4 to 12 percent
Elevation: 4,300 to 4,600 feet
Mean annual precipitation: 10 to 14 inches
Mean annual air temperature: 52 to 54 degrees F
Frost-free period: 150 to 165 days
Classification: Coarse-loamy, mixed, superactive, mesic Ustic Haplocalcids

Typical Pedon

A—0 to 2 inches; brown (10YR 5/3) gravelly sandy loam, brown (10YR 4/3) moist; weak fine granular structure; soft, very friable, nonsticky and nonplastic; many very fine roots; common very fine tubular pores; 20 percent gravel; violently effervescent, 20 percent calcium carbonate equivalent; slightly alkaline (pH 7.8); abrupt smooth boundary.

Bw—2 to 6 inches; brown (10YR 5/3) gravelly sandy loam, brown (10YR 4/3) moist; weak fine subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; many very fine roots; common very fine tubular pores; 20 percent gravel; violently effervescent, 22 percent calcium carbonate equivalent; moderately alkaline (pH 8.0); clear wavy boundary

Bk1—6 to 25 inches; brown (10YR 5/3) gravelly sandy loam, brown (10YR 4/3) moist; weak fine subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; many very fine roots; common fine tubular pores; 30 percent gravel; violently effervescent, 28 percent calcium carbonate equivalent; moderately alkaline (pH 8.0); clear wavy boundary.

Bk2—25 to 37 inches; very pale brown (10YR 7/3) gravelly loam, light brown (7.5YR 6/4) moist; weak very fine subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; common very fine roots; common very fine tubular pores; 20 percent gravel; violently effervescent, 38 percent calcium carbonate equivalent; moderately alkaline (pH 8.2); abrupt smooth boundary.

2Bk3—37 to 60 inches; light brown (7.5YR 6/4) loam, brown (7.5YR 5/4) moist; moderate coarse subangular blocky structure; very hard, firm, nonsticky and nonplastic; few very fine roots; many very fine tubular pores; 10 percent gravel; few fine soft calcium carbonate masses; violently effervescent, 23 percent calcium carbonate equivalent; moderately alkaline (pH 8.2).

Type location: In an area of Milok-Pastern complex, 4 to 12 percent slopes; about 200 feet south and 2,300 feet east of the northwest corner of sec. 12, T. 24 N., R. 12 W.

Range in Characteristics

Depth to the calcic horizon: 6 to 20 inches
Reaction: slightly alkaline or moderately alkaline
Clay content in the control section: 5 to 18 percent
Rock fragments: 5 to 30 percent

Mutang Series

Depth class: shallow to bedrock (paralithic)
Drainage class: well drained
Permeability: slow
Landform: pediments
Parent material: alluvium derived from igneous rock
Slope: 0 to 30 percent
Elevation: 2,800 to 4,800 feet
Mean annual precipitation: 9 to 12 inches
Mean annual air temperature: 62 to 68 degrees F
Frost-free period: 180 to 265 days
Classification: Clayey, mixed, superactive, thermic, shallow Typic Haplargids

Typical Pedon

A—0 to 1 inches; brown (7.5YR 5/3) gravelly sandy loam, brown (7.5YR 4/3) moist; weak fine granular structure; soft, very friable, nonsticky and nonplastic; few very fine roots; few very fine tubular pores; 15

percent gravel; noneffervescent; slightly alkaline (pH 7.8); abrupt smooth boundary.

Bt1—1 to 5 inches; brown (7.5YR 5/4) loam, brown (7.5YR 4/4) moist; moderate fine subangular blocky structure; hard, firm, sticky and plastic; common very fine roots; common very fine tubular pores; few faint clay films on ped faces and in pores; 5 percent gravel; noneffervescent; slightly alkaline (pH 7.8); clear wavy boundary.

Bt2—5 to 15 inches; reddish brown (5YR 4/4) gravelly clay, dark reddish brown (5YR 3/4) moist; strong medium subangular blocky structure; hard, firm, very sticky and very plastic; common very fine roots; common very fine tubular pores; common faint clay films on ped faces and in pores; 15 percent gravel; noneffervescent; moderately alkaline (pH 8.0); abrupt smooth boundary.

2Cr—15 to 22 inches; weathered granite.

2R—22 inches; granite.

Type location: In an area of Mutang-Dutchflat complex, 0 to 3 percent slopes; about 1,800 feet north and 200 feet west of the southeast corner of sec. 12, T. 22 N., R. 19 W.

Range in Characteristics

Depth to bedrock: 10 to 20 inches
Reaction: slightly or moderately alkaline

A horizon
Hue: 10YR, 7.5YR
Value: 4 or 6 dry, 3 or 4 moist
Chroma: 3 or 4, dry or moist

Bt horizon
Hue: 5YR, 7.5YR
Value: 3 or 5 dry, 3 or 4 moist
Chroma: 4 to 6 dry, 3 or 4 moist
Texture: sandy clay, clay, clay loam (averages more than 35 percent clay)
Rock fragments: 5 to 35 percent gravel

Nealy Series

Depth class: moderately deep to duripan
Drainage class: well drained
Permeability: moderate
Landform: fan terraces
Parent material: alluvium derived from igneous and metamorphic rock
Slope: 1 to 10 percent
Elevation: 3,000 to 4,300 feet
Mean annual precipitation: 9 to 12 inches
Mean annual air temperature: 59 to 64 degrees F
Frost-free period: 200 to 230 days
Classification: Fine-loamy, mixed, superactive, thermic Typic Argidurids

Typical Pedon

A—0 to 2 inches; yellowish brown (10YR 5/4) gravelly coarse sandy loam, dark yellowish brown (10YR 4/4) moist; weak thin platy structure parting to weak fine granular; soft, very friable, nonsticky and nonplastic; common very fine roots; common very fine interstitial pores; 30 percent gravel; strongly effervescent, 7 percent calcium carbonate equivalent; slightly alkaline (pH 7.8); abrupt smooth boundary.

Bw—2 to 14 inches; brown (7.5YR 5/4) gravelly sandy loam, brown (7.5YR 4/4) moist; weak fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; common fine roots; few very fine interstitial pores; 22 percent angular gravel; strongly effervescent, 7 percent calcium carbonate equivalent; slightly alkaline (pH 7.8); clear wavy boundary.

Btk—14 to 33 inches; brown (7.5YR 5/4) gravelly sandy clay loam, brown (7.5YR 5/4) moist; weak fine subangular blocky structure; soft, very friable, sticky and plastic; common fine roots; common fine tubular pores; 25 percent angular gravel; few faint clay films in pores and on ped faces; violently effervescent, 15 percent calcium carbonate equivalent as many fine soft seams, masses, and filaments; slightly alkaline (pH 7.8); clear wavy boundary.

Bkqm—33 to 48 inches; indurated, silica and calcium carbonate cemented hardpan.

2C—48 to 60 inches; extremely gravelly sand.

Type location: In an area of Nealy-Skelon family-Detrital complex, 3 to 10 percent slopes; about 50 feet west and 100 feet north of sec. 7, T. 24 N., R. 20 W.

Range in Characteristics

Rock fragments: 10 to 35 percent gravel. A surface lag layer containing 10 to 70 percent gravel is common.
Thickness of duripan: 6 to 30 inches
Depth to unconsolidated alluvium: 26 to 60 inches
Reaction: slightly to moderately alkaline
Calcium carbonate: slightly effervescent to strongly effervescent in the subsurface layer; strongly to violently effervescent in the subsoil. 15 to 25 percent calcium carbonate equivalent.
Clay content: averages 20 to 35 percent in the control section

A horizon
Hue: 7.5YR, 10YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 3 or 4, dry or moist

B horizons
Hue: 7.5YR, 5YR
Value: 4 or 5 dry, 3 or 4 moist
Chroma: 3 or 4, dry or moist

Nickel Series

Depth class: very deep
Drainage class: well drained
Permeability: moderately slow
Landform: fan terraces
Parent material: alluvium derived from mixed rock sources
Slope: 1 to 10 percent
Elevation: 2,400 to 3,200 feet
Mean annual precipitation: 6 to 9 inches
Mean annual air temperature: 64 to 70 degrees F
Frost-free period: 230 to 280 days
Classification: Loamy-skeletal, mixed, superactive, thermic Typic Haplocalcids

Typical Pedon

A—0 to 2 inches; light brown (7.5YR 6/4) extremely gravelly sandy loam, brown (7.5YR 4/4) moist; weak medium subangular blocky structure; soft, very friable, nonsticky and nonplastic; many very fine roots; many very fine interstitial pores; 65 percent gravel; violently effervescent; slightly alkaline (pH 7.8); clear smooth boundary.

Bw—2 to 5 inches; light brown (7.5YR 6/4) gravelly sandy loam, brown (7.5YR 4/4) moist; weak medium subangular blocky structure; soft, very friable, nonsticky and nonplastic; common very fine and fine roots, many very fine interstitial pores; 20 percent gravel; violently effervescent; moderately alkaline (pH 8.0); abrupt wavy boundary.

Bkn—5 to 36 inches; brown (7.5YR 4/4) very gravelly sandy loam, brown (7.5YR 4/4) moist; weak fine subangular blocky structure; hard, friable, nonsticky and nonplastic; few very fine and fine roots; many very fine and few fine interstitial pores; 40 percent gravel; few fine soft calcium carbonate masses; violently effervescent; strongly alkaline (pH 8.8); abrupt wavy boundary.

Bk—36 to 60 inches; light brown (7.5YR 6/4) very gravelly loamy sand, brown (7.5YR 5/4) moist; massive; hard, friable, nonsticky and nonplastic; few very fine and fine roots; many very fine and common fine interstitial pores; 50 percent gravel; violently effervescent; moderately alkaline (pH 8.2)

Type location: In an area of Nickel-Skelon family-Detrital complex, 3 to 10 percent slopes; about 640 feet north and 480 feet west of the southeast corner of sec. 12, T. 28 N., R. 21 W.

Range in Characteristics

Depth to calcic horizon: 10 to 25 inches
Control section
Clay content: averages 3 to 18 percent
Rock fragments: 40 to 85 percent

A horizon
Hue: 10YR, 7.5YR
Value: 6 or 7 dry, 4 or 5 moist
Chroma: 3 or 4, dry or moist

Bw horizon
Hue: 10YR, 7.5YR
Value: 6 or 7 dry, 4 or 5 moist
Chroma: 3 or 4, dry or moist
Texture: sandy loam, loam with less than 18 percent clay

Bk and Bkn horizons
Hue: 10YR, 7.5YR
Value: 4 to 8 dry, 4 to 7 moist
Chroma: 1 to 4, dry or moist
Texture: sandy loam, loamy sand
Calcium carbonate equivalent: 15 to 25 percent

Nickel family

Depth class: very deep
Drainage class: well drained
Permeability: moderate or moderately slow
Landform: fan terraces, hills, and mesas
Parent material: alluvium derived from mixed rock sources
Slope: 1 to 50 percent
Elevation: 2,400 to 5,000 feet
Mean annual precipitation: 9 to 12 inches
Mean annual air temperature: 57 to 70 degrees F
Frost-free period: 200 to 280 days
Classification: Loamy-skeletal, mixed, superactive, thermic Typic Haplocalcids

Typical Pedon

A—0 to 4 inches; yellowish brown (10YR 5/4) extremely stony loam, brown (10YR 4/3) moist; weak fine granular structure; soft, very friable, slightly sticky and nonplastic; many very fine roots; common fine tubular pores; 25 percent gravel; 20 percent cobble, and 20 percent stone; noneffervescent; slightly alkaline (pH 7.8); abrupt smooth boundary.

Bw—4 to 23 inches; yellowish brown (10YR 5/4) very cobbly silt loam, brown (10YR 4/3) moist; weak

fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine roots; many fine and medium tubular pores; 20 percent gravel, 20 percent cobble; slightly effervescent; moderately alkaline (pH 8.0); clear wavy boundary.

Bk1—23 to 51 inches; very pale brown (10YR 8/3) very cobbly loam, pale brown (10YR 6/3) moist; strong fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; few very fine and fine roots; many fine tubular pores; 20 percent gravel, common fine soft calcium carbonate masses; 20 percent cobble; moderately alkaline (pH 8.2); clear wavy boundary.

Bk2—51 to 60 inches; pale brown (10YR 6/3) very cobbly sandy loam, brown (10YR 4/3) moist; strong fine subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; few very fine and fine roots; many fine tubular pores; 20 percent gravel, 20 percent cobble; violently effervescent; moderately alkaline (pH 8.2).

Type location: In an area of Tumarion-Nickel family complex, 8 to 35 percent slopes; about 1,250 feet south and 1,300 feet east of the northwest corner of sec. 25, T. 23 N., R. 17 W.

Range in Characteristics

Use of the "Nickel family" reference term is a convention to reduce name length and implies no specific use of a soil series, reduced mapping intensity, or range of properties beyond that which is described in the map unit description and database. Use, management, and interpretations are not affected.

Depth to calcic horizon: 10 to 25 inches
Control section
Clay content: averages 3 to 18 percent
Rock fragments: 40 to 85 percent

A horizon
Hue: 10YR, 7.5YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 3 or 4, dry or moist

Bw horizon
Hue: 10YR, 7.5YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 3 or 4, dry or moist
Texture: silt loam or loam with less than 18 percent clay

Bk horizon
Hue: 10YR, 7.5YR
Value: 6 to 8 dry, 4 to 6 moist
Chroma: 1 to 4, dry or moist
Calcium carbonate equivalent: 15 to 25 percent

Nodman Series

Depth class: very shallow and shallow to bedrock (paralithic)
Drainage class: well drained
Permeability: moderately slow
Landform: hills, mountains, and pediments
Parent material: alluvium and/or colluvium derived from metamorphic and igneous rock over residuum weathered from metamorphic and igneous rock
Slope: 2 to 65 percent
Elevation: 3,900 to 6,300 feet
Mean annual precipitation: 12 to 16 inches
Mean annual air temperature: 57 to 62 degrees F
Frost-free period: 200 to 230 days
Classification: Loamy-skeletal, mixed, superactive, thermic, shallow Ustic Haplargids

Typical Pedon

A—0 to 2 inches; light brown (7.5YR 6/4) gravelly sandy loam, brown (7.5YR 4/3) moist; weak medium platy structure parting to moderate very fine subangular blocky; soft, very friable, nonsticky and nonplastic; common very fine and fine and few medium roots; common very fine irregular pores; 30 percent gravel; noneffervescent; moderately acid (pH 5.9); abrupt smooth boundary.

Bt—2 to 10 inches; reddish yellow (7.5YR 6/6) very gravelly sandy clay loam, strong brown (7.5YR 5/6) moist; moderate fine subangular blocky structure; slightly hard, friable, moderately sticky and moderately plastic; common very fine through medium roots; common very fine and fine irregular pores; few faint clay films bridging sand grains, common faint clay films lining pores and on faces of peds, few distinct clay films on faces of peds; 45 percent gravel; noneffervescent; moderately acid (pH 6.0); clear wavy boundary.

2Cr1—10 to 17 inches; highly weathered granite bedrock penetrated by roots; abrupt irregular boundary.

2Cr2—17 inches; fractured slightly weathered granite bedrock.

Type location: In an area of Nodman-Rock outcrop complex, 15 to 65 percent slopes; 35 degrees, 21 minutes, 3.6 seconds north latitude; 113 degrees, 46 minutes, 9.6 seconds west longitude.

Range in Characteristics

Rock fragments: 35 to 65 percent in the particle-size control section
Reaction: moderately acid to neutral

A horizon
Hue: 7.5YR, 10YR
Value: 4 to 6 dry, 3 to 5 moist
Chroma: 2 to 4, dry or moist

Bt horizons
Hue: 5YR, 7.5YR
Value: 4 to 6 dry, 3 to 5 moist
Chroma: 3 to 6, dry or moist
Texture: sandy loam, sandy clay loam, clay loam
Clay content: 18 to 35 percent in the particle-size control section

Nodman Taxadjunct

Depth class: very shallow and shallow to bedrock (paralithic)
Drainage class: well drained
Permeability: moderately slow
Landform: pediments, hills, and mountains
Parent material: alluvium and colluvium derived from mixed rock sources
Slope: 3 to 70 percent
Elevation: 3,400 to 5,800 feet
Mean annual precipitation: 9 to 12 inches
Mean annual air temperature: 59 to 66 degrees F
Frost-free period: 200 to 230 days
Classification: Loamy-skeletal, mixed, superactive, thermic, shallow Typic Haplargids

Typical Pedon

A—0 to 2 inches; brown (10YR 5/3) extremely cobbly sandy loam, brown (10YR 4/3) moist; weak fine granular structure; loose, very friable, nonsticky and nonplastic; common very fine roots; common fine interstitial pores; 50 percent gravel, 25 percent cobble; slightly alkaline (pH 7.8); abrupt smooth boundary.

Bt1—2 to 5 inches; yellowish brown (10YR 5/4) extremely gravelly sandy loam, dark yellowish brown (10YR 4/4) moist; weak very fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine roots; few very fine tubular pores; few faint clay films on ped faces and in pores; 60 percent gravel, 10 percent cobble; slightly alkaline (pH 7.8); abrupt smooth boundary.

Bt2—5 to 8 inches; yellowish brown (10YR 5/4) very gravelly sandy clay loam, dark yellowish brown (10YR 4/4) moist; moderate very fine subangular blocky structure; hard, firm, slightly sticky and slightly plastic; common very fine roots; few very fine tubular pores; few faint clay films on ped faces and in pores; 40 percent gravel, 10 percent cobble; moderately alkaline (pH 8.0); abrupt smooth boundary.

Bt3—8 to 10 inches; yellowish brown (10YR 5/4) very gravelly sandy clay loam, dark yellowish brown (10YR 4/4) moist; moderate very fine subangular blocky structure; hard, firm, very sticky and plastic; common very fine roots; few very fine tubular pores; few faint clay films on ped faces and in pores; 50 percent gravel; moderately alkaline (pH 8.0); abrupt smooth boundary.

2Cr—10 to 60 inches; weathered granite bedrock.

Type location: In an area of Fig-Blind-Nodman complex, 30 to 70 percent slopes; about 300 feet north and 1,600 feet east of the southwest corner of sec. 36, T. 23 N., R. 18 W.

Range in Characteristics

These soils are a taxadjunct to the Nodman Series. These soils are in the typic aridic soil moisture regime.

Rock fragments: 35 to 65 percent in the particle-size control section
Reaction: moderately acid to neutral

A horizon
Hue: 7.5YR, 10YR
Value: 4 to 6 dry, 3 to 5 moist
Chroma: 2 to 4, dry or moist

Bt horizons
Hue: 5YR, 7.5YR
Value: 4 to 6 dry, 3 to 5 moist
Chroma: 3 to 6, dry or moist
Texture: sandy loam, sandy clay loam, clay loam
Clay content: 18 to 35 percent in the particle-size control section

Nolam family

Depth class: very deep
Drainage class: well drained
Permeability: moderate or moderately slow
Landform: fan terraces
Parent material: alluvium derived from igneous and metamorphic rock
Slope: 1 to 30 percent
Elevation: 3,800 to 4,600 feet
Mean annual precipitation: 12 to 16 inches
Mean annual air temperature: 59 to 64 degrees F
Frost-free period: 170 to 230 days
Classification: Loamy-skeletal, mixed, superactive, thermic Ustic Calciargids

Typical Pedon

A—0 to 2 inches; brown (7.5YR 5/4) very gravelly sandy loam, dark brown (7.5YR 3/4) moist; moderate

medium and thick platy structure; soft, very friable, nonsticky and nonplastic; common very fine and few fine roots; common very fine and few fine tubular pores; 35 percent gravel, 5 percent cobble, and 2 percent stone; strongly effervescent; moderately alkaline (pH 8.2); clear smooth boundary.

AB—2 to 5 inches; brown (7.5YR 4/4) very gravelly sandy loam, brown (7.5YR 4/4) moist; weak medium and fine subangular blocky structure; soft, friable, slightly sticky and slightly plastic; common very fine and fine roots; common very fine and few fine tubular pores; 30 percent gravel, 5 percent cobble, and 2 percent stone; strongly effervescent; moderately alkaline (pH 8.2); clear smooth boundary.

Btk1—5 to 18 inches; yellowish red (5YR 4/6) very gravelly sandy clay loam, yellowish red (5YR 4/6) moist; moderate medium prismatic structure parting to moderate medium and fine subangular blocky; hard, friable, slightly sticky and moderately plastic; common very fine through medium roots; common very fine and few fine tubular pores; many faint and few distinct clay films on faces of peds, common pressure faces on peds adjacent to rock fragments; common fine calcium carbonate soft seams, filaments, and masses, weak thin discontinuous calcium carbonate coatings on the undersides and sides of rock fragments; 35 percent gravel, 5 percent cobble, and 2 percent stone; violently effervescent; moderately alkaline (pH 8.4); clear wavy boundary.

Btk2—18 to 24 inches; reddish brown (5YR 5/4) very gravelly sandy loam, reddish brown (5YR 5/4) moist; weak very fine and fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few very fine through medium roots; common very fine and few fine tubular pores; many faint clay films on faces of peds, common pressure faces on peds adjacent to rock fragments; many fine and medium calcium carbonate soft filaments, seams and masses, weak thin calcium carbonate coatings on all sides of rock fragments; 35 percent gravel, 10 percent cobble, and 2 percent stone; violently effervescent; moderately alkaline (pH 8.4); clear wavy boundary.

Bk1—24 to 30 inches; light reddish brown (5YR 6/4) very gravelly sandy loam, reddish brown (5YR 5/4) moist; weak medium and fine subangular blocky structure; slightly hard, friable, nonsticky and slightly plastic; few very fine and fine roots; weakly to moderately cemented by calcium carbonate; 15 percent calcium carbonate equivalent; 45 percent gravel, 10 percent cobble, and 2 percent stone; violently effervescent; moderately alkaline (pH 8.4); abrupt wavy boundary.

Bk2—30 to 60 inches; light reddish brown (5YR 6/4) extremely gravelly sandy loam, reddish brown (5YR 5/4) moist; weak very fine and fine subangular blocky structure; slightly hard, friable, nonsticky and nonplastic; few very fine and fine roots; many medium and coarse calcium carbonate soft seams and masses with pockets that are weakly cemented, thin to moderately thick calcium carbonate coatings on all sides of rock fragments; 60 percent gravel, 5 percent cobble, and 2 percent stone; violently effervescent; moderately alkaline (pH 8.4).

Type location: In an area of Tombstone-Caralampi-Nolam families complex, 2 to 30 percent slopes; 35 degrees, 23 minutes, 42.9 seconds north latitude; 113 degrees, 46 minutes, 35.9 seconds west longitude.

Range in Characteristics

Use of the "Nolam family" reference term is a convention to reduce name length and implies no specific use of a soil series, reduced mapping intensity, or range of properties beyond that which is described in the map unit description and database. Use, management, and interpretations are not affected.

Rock fragments: 35 to 65 percent in the particle-size control section

A horizon
Hue: 7.5YR, 10YR
Value: 4 to 6 dry, 3 to 5 moist
Chroma: 3 or 4, dry or moist
Reaction: slightly acid to moderately alkaline

Bt horizons
Hue: 5YR, 7.5YR
Value: 4 or 5 dry, 3 or 4 moist
Chroma: 3 to 6, dry or moist
Reaction: moderately acid to moderately alkaline
Texture: clay, clay loam, sandy clay loam, sandy loam, coarse sandy loam
Clay content: 18 to 35 percent in the particle-size control section

Bk horizon
Hue: 5YR, 7.5YR
Value: 5 to 8 dry, 4 to 7 moist
Chroma: 2 to 6, dry or moist
Reaction: moderately to strongly alkaline
Texture: loamy sand, coarse sandy loam, sandy loam, sandy clay loam, loam
Calcium carbonate equivalent: 15 to 40 percent

Some pedons have weakly to moderately calcium carbonate cemented Bk horizons with thin (1/8 to

1/4 inch thick) strongly cemented or indurated laminar lenses or caps that are highly fractured and/or laterally discontinuous allowing roots to penetrate.

Some pedons have C and/or Ck horizons.

Some pedons have Btq and/or Btkq horizons that do not meet the silica cementation criteria for a duripan.

Nuffel Taxadjunct

Depth class: very deep
Drainage class: well drained
Permeability: moderate
Landform: fan terraces
Parent material: alluvium derived from mixed rock sources
Slope: 1 to 3 percent
Elevation: 5,000 to 5,200 feet
Mean annual precipitation: 14 to 18 inches
Mean annual air temperature: 48 to 52 degrees F
Frost-free period: 135 to 150 days
Classification: Fine-silty, mixed, superactive, nonacid, mesic Typic Torrifluvents

Typical Pedon

A—0 to 6 inches; brown (7.5YR 4/2) silty clay loam, dark brown (7.5YR 3/2) moist; moderate medium granular structure; slightly hard, very friable, moderately sticky and slightly plastic; common very fine and fine roots; many very fine irregular pores; noneffervescent; neutral (pH 7.2); abrupt smooth boundary.

Bw—6 to 14 inches; brown (7.5YR 4/2) silty clay loam, dark brown (7.5YR 3/2) moist; weak very fine subangular blocky structure; slightly hard, very friable, moderately sticky and slightly plastic; common very fine and fine roots; common fine and medium tubular pores; noneffervescent; neutral (pH 7.2); abrupt smooth boundary.

Bwb1—14 to 25 inches; brown (7.5YR 4/3) silt loam, dark brown (7.5YR 3/2) moist; weak thin platy structure parting to weak fine subangular blocky; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and fine roots; common fine and medium tubular pores; noneffervescent; neutral (pH 7.2); abrupt smooth boundary.

Bwb2—25 to 60 inches; brown (7.5YR 4/2) silty clay loam, dark brown (7.5YR 3/2) moist; weak medium prismatic structure parting to moderate fine and medium subangular blocky; slightly hard, very friable, moderately sticky and slightly plastic; few very fine and fine roots; many medium and coarse tubular pores; noneffervescent, neutral (pH 7.2).

Type location: In an area of Manikan-Nuffel complex, 0 to 3 percent slopes; about 1,760 feet north and 200 feet east of the southwest corner of sec. 20, T. 21 N., R. 11 W.

Range in Characteristics

These soils are a taxadjunct to the Nuffel series. These soils have a nonacid reaction class and have a Typic Aridic soil moisture regime.

Particle-size control section: 18 to 27 percent clay

A horizon
Hue: 7.5YR, 10YR
Value: 3 to 5, 2 or 3 moist
Chroma: 1 to 4, dry or moist
Texture: silt loam, loam, clay loam, silty clay loam, silty clay

Bw horizons
Hue: 7.5YR, 10YR
Value: 3 to 5, 2 to 4 moist
Chroma: 2 to 6, dry or moist
Texture: silt loam, silty clay loam

Ohaco family

Depth class: moderately deep to duripan
Drainage class: well drained
Permeability: very slow
Landform: fan terraces
Parent material: alluvium derived from granite
Slope: 2 to 8 percent
Elevation: 3,000 to 3,600 feet
Mean annual precipitation: 9 to 12 inches
Mean annual air temperature: 59 to 64 degrees F
Frost-free period: 200 to 230 days
Classification: Fine, mixed, superactive, thermic Typic Argidurids

Typical Pedon

A—0 to 3 inches; brown (7.5YR 5/3) sandy loam, brown (7.5YR 4/3) moist; weak fine granular structure; slightly hard, very friable, nonsticky and nonplastic; common fine and medium roots; few fine tubular pores; 5 percent gravel; noneffervescent; slightly alkaline (pH 7.4); clear wavy boundary.

Bt1—3 to 6 inches; brown (7.5YR 5/3) clay loam, brown (7.5YR 4/4) moist; moderate fine subangular blocky structure; hard, friable, moderately sticky and slightly plastic; common fine and medium roots; few fine tubular pores; weak thin clay films on faces of

peds and lining pores; 5 percent gravel; noneffervescent; slightly alkaline (pH 7.4); clear wavy boundary.

Bt2—6 to 15 inches; reddish brown (5YR 5/4) clay, reddish brown (5YR 4/4) moist; strong fine prismatic structure parting to strong fine subangular blocky; very hard, very firm, very sticky and very plastic; common fine roots; few fine tubular pores; many moderately thick clay films on faces of peds and lining pores; 5 percent gravel; noneffervescent; moderately alkaline (pH 7.6); clear wavy boundary.

Btk—15 to 20 inches; reddish brown (5YR 5/4) very gravelly clay loam, reddish brown (5YR 5/4) moist; strong fine subangular blocky structure; very hard, very firm, very sticky and very plastic; few fine roots; few fine tubular pores; common thin clay films on faces of peds and lining pores; 40 percent gravel; slightly effervescent; moderately alkaline (pH 7.6); clear wavy boundary.

B't—20 to 35 inches; light brown (7.5YR 6/4) very gravelly sandy loam, brown (7.5YR 5/4) moist; moderate fine subangular blocky structure; very hard, friable, nonsticky and nonplastic; few very fine roots; few very fine tubular pores; few thin clay films on faces of peds and lining pores; 50 percent gravel; slightly effervescent; moderately alkaline (pH 8.0); abrupt smooth boundary.

Bkqm—35 to 60 inches; indurated duripan.

Type location: In an area of Ohaco family-Bluebird complex, 2 to 8 percent slopes; about 400 feet north and 1,000 feet west of the southeast corner of sec. 33, T. 24 N., R. 19 W.

Range in Characteristics

Use of the "Ohaco family" reference term is a convention to reduce name length and implies no specific use of a soil series, reduced mapping intensity, or range of properties beyond that which is described in the map unit description and database. Use, management, and interpretations are not affected.

Depth to duripan: 20 to 40 inches
Rock fragments: average less than 35 percent in the particle-size control section

A and B horizons
Hue: 5YR, 7.5YR
Value: 4 to 6 dry, 3 to 5 moist
Chroma: 3 or 4, dry or moist

Orejano Series

Depth class: very deep
Drainage class: well drained
Permeability: slow
Landform: plateaus
Parent material: alluvium derived from volcanic rock
Slope: 4 to 35 percent
Elevation: 4,700 to 5,400 feet
Mean annual precipitation: 14 to 18 inches
Mean annual air temperature: 48 to 57 degrees F
Frost-free period: 135 to 150 days
Classification: Clayey-skeletal over sandy or sandy-skeletal, mixed, superactive, mesic Aridic Argiustolls

Typical Pedon

A—0 to 2 inches; brown (7.5YR 4/3) gravelly sandy loam, dark brown (7.5YR 3/2) moist; weak fine granular structure; slightly hard, very friable, slightly sticky and nonplastic; many very fine roots; many very fine irregular pores; 30 percent gravel; noneffervescent; neutral (pH 6.8); abrupt smooth boundary.

Bt1—2 to 7 inches; brown (7.5YR 4/4) gravelly clay, dark brown (7.5YR 3/2) moist; strong fine and medium subangular blocky structure; hard, firm, very sticky and very plastic; many fine and medium roots; common very fine tubular pores; 25 percent gravel; few faint clay films lining pores and on faces of peds; noneffervescent; neutral (pH 7.0); clear wavy boundary.

Bt2—7 to 12 inches; brown (7.5YR 4/4) very gravelly sandy clay, brown (7.5YR 4/3) moist; strong very fine subangular blocky structure; hard, firm, very sticky and very plastic; common fine and medium roots; common very fine tubular pores; 50 percent gravel; few faint clay films lining pores and on faces of peds; noneffervescent; neutral (pH 7.2); clear wavy boundary.

BC—12 to 18 inches; brown (7.5YR 4/4) very gravelly sandy clay loam, brown (7.5YR 4/3) moist; weak fine subangular blocky structure; hard, firm, very sticky and very plastic; common fine and medium roots; common very fine tubular pores; 50 percent gravel; few faint clay films lining pores and on faces of peds; noneffervescent; neutral (pH 7.2); clear wavy boundary.

C1—18 to 28 inches; brown (7.5YR 5/3) extremely gravelly coarse sandy loam, brown (7.5YR 4/3) moist; massive; hard, very friable, nonsticky and nonplastic;

few fine, medium, and coarse roots; many very fine irregular pores; discontinuously weakly cemented; 80 percent gravel; noneffervescent; neutral (pH 7.2); abrupt smooth boundary.

C2—28 to 60 inches; brown (7.5YR 5/3) very gravelly loamy coarse sand, brown (7.5YR 4/3) moist; massive; hard, very friable, nonsticky and nonplastic; few fine, medium and coarse roots; many very fine irregular pores; weakly cemented; 55 percent gravel; noneffervescent; neutral (pH 7.2).

Type location: In an area of Orejano gravelly sandy loam, 4 to 35 percent slopes; 35 degrees, 13 minutes, 17 seconds north latitude; 113 degrees, 27 minutes, 38 seconds west longitude; about 1,200 feet south and 1,450 feet west of the northeast corner of sec. 8, T. 21 N., R. 11 W.

Range in Characteristics

Rock fragments: average greater than 35 percent

A horizon
Hue: 7.5YR, 10YR
Value: 3 or 4, dry or moist
Chroma: 2 or 3, dry or moist

Bt horizons
Hue: 7.5YR, 10YR
Value: 3 to 5 dry, 3 or 4 moist
Chroma: 3 or 4 dry, 2 to 4 moist
Texture: clay, sandy clay, sandy clay loam

C horizons
Hue: 7.5YR, 10YR
Value: 5 or 6 dry, 3 to 5 moist
Chroma: 3 or 4 dry, 2 to 4 moist
Texture: loamy sand, loamy coarse sand
Cementation: weak to strong

C horizons with discontinuous weak cementation and coarse sandy loam textures may not be present in all pedons

BC horizons are not present in all pedons

Pantak family

Depth class: very shallow and shallow to bedrock (lithic)
Drainage class: well drained
Permeability: moderately slow
Landform: hills and mountains
Parent material: colluvium derived from volcanic rock over residuum weathered from volcanic rock
Slope: 15 to 65 percent
Elevation: 3,750 to 4,950 feet
Mean annual precipitation: 12 to 16 inches
Mean annual air temperature: 59 to 64 degrees F
Frost-free period: 170 to 230 days
Classification: Loamy-skeletal, mixed, superactive, thermic Lithic Ustic Haplargids

Typical Pedon

A—0 to 2 inches; dark brown (10YR 3/3) extremely cobbly loam, very dark brown (10YR 2/2) moist; weak fine and medium subangular blocky structure; soft, very friable, slightly sticky and nonplastic; many very fine and fine and few medium roots; common very fine irregular pores; 25 percent gravel, 25 percent cobble, and 10 percent stone; noneffervescent; neutral (pH 6.8); abrupt smooth boundary.

Bt—2 to 12 inches; dark brown (10YR 3/3) extremely cobbly loam, very dark brown (10YR 2/2) moist; strong very fine and fine subangular blocky structure; hard, friable, slightly sticky and slightly plastic; few very fine, many fine and medium and common coarse roots; common very fine and few fine tubular pores; common faint clay films bridging sand grains, few faint clay films on faces of peds; 25 percent gravel, 30 percent cobble, and 10 percent stone; noneffervescent; neutral (pH 7.0); abrupt irregular boundary.

2R—12 inches; fractured basalt bedrock.

Type location: In an area of Pantak family-Taine-Terino family complex, 15 to 65 percent slopes; 35 degrees, 13 minutes, 8 seconds north latitude; 113 degrees, 46 minutes, 23 seconds west longitude.

Range in Characteristics

Use of the "Pantak family" reference term is a convention to reduce name length and implies no specific use of a soil series, reduced mapping intensity, or range of properties beyond that which is described in the map unit description and database. Use, management, and interpretations are not affected.

Rock fragments: 35 to 65 percent in the particle-size control section
Reaction: neutral to moderately alkaline

A horizon
Value: 3 to 4 dry, 2 to 3 moist
Chroma: 3 or 4 dry, 2 or 3 moist
Effervescence: none to slight

Bt horizons
Hue: 7.5YR, 10YR
Value: 3 or 4 dry, 2 or 4 moist
Chroma: 3 or 4 dry, 2 or 3 moist

Texture: loam, clay loam
Clay content: 20 to 35 percent in the particle-size control section
Effervescence: none to slight

Pastern Series

Depth class: very shallow and shallow to petrocalcic
Drainage class: well drained
Permeability: moderate
Landform: fan terraces
Parent material: alluvium derived from limestone
Slope: 4 to 20 percent
Elevation: 4,300 to 4,800 feet
Mean annual precipitation: 10 to 14 inches
Mean annual air temperature: 52 to 55 degrees F
Frost-free period: 150 to 165 days
Classification: Loamy, mixed, superactive, mesic, shallow Ustic Petrocalcids

Typical Pedon

A—0 to 2 inches; brown (10YR 5/3) gravelly sandy loam, brown (10YR 4/3) moist; weak thin platy structure parting to weak fine granular; soft, very friable, nonsticky and nonplastic; many fine roots; many fine irregular pores; 25 percent gravel; violently effervescent; moderately alkaline (pH 8.0); abrupt smooth boundary.

Bw—2 to 11 inches; yellowish brown (10YR 5/4) gravelly loam, brown (10YR 4/3) moist; weak fine subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; many fine roots; common very fine tubular pores; 25 percent gravel; violently effervescent; moderately alkaline (pH 8.0); abrupt smooth boundary.

2Bkm—11 to 21 inches; strongly cemented petrocalcic horizon.

2Bk—21 to 60 inches; yellowish brown (10YR 5/4) extremely gravelly sandy loam, dark yellowish brown (10YR 4/4) moist; massive; hard, very friable, nonsticky and nonplastic; few very fine roots; many very fine irregular pores; 80 percent gravel; many calcium carbonate coatings on gravel; violently effervescent; moderately alkaline (pH 8.3).

Type location: In an area of Milok-Pastern complex, 4 to 12 percent slopes; about 200 feet north and 500 feet west of the southeast corner of sec. 5, T. 24 N., R. 12 W.

Range in Characteristics

Depth to petrocalcic horizon: 10 to 20 inches
Thickness of petrocalcic horizon: 6 to 36 inches
Rock fragments (particle-size control section): 5 to 35 percent
Clay content (particle-size control section): 5 to 18 percent

Peachsprings Series

Depth class: very deep
Drainage class: well drained
Permeability: moderately slow
Landform: fan terraces
Parent material: alluvium derived from limestone
Slope: 2 to 15 percent
Elevation: 4,300 to 5,100 feet
Mean annual precipitation: 10 to 12 inches
Mean annual air temperature: 52 to 55 degrees F
Frost-free period: 135 to 175 days
Classification: Fine-loamy, mixed, superactive, mesic Ustic Haplocalcids

Typical Pedon

A—0 to 3 inches; brown (10YR 5/3) extremely gravelly coarse sandy loam, brown (10YR 4/3) moist; weak medium platy structure parting to moderate fine granular; soft, very friable, nonsticky and nonplastic; many very fine and few fine roots; many very fine irregular pores; 70 percent subrounded gravel of mixed mineralogy on surface; violently effervescent; moderately alkaline (pH 8.0); abrupt smooth boundary.

Bw—3 to 8 inches; brown (10YR 5/3) gravelly sandy loam, brown (10YR 4/3) moist; moderate medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine and few fine roots; few fine tubular pores; 30 percent gravel; very few faint calcium carbonate coatings on undersides of rock fragments; violently effervescent; moderately alkaline (pH 8.0); abrupt wavy boundary.

2Bk1—8 to 21 inches; light brown (7.5YR 6/4) gravelly sandy clay loam, brown (7.5YR 5/4) moist; moderate medium subangular blocky structure; hard, friable, sticky and plastic; common very fine roots; common very fine tubular pores; 20 percent fine gravel; common distinct soft calcium carbonate masses and few distinct coatings in pores and on ped faces; violently effervescent, 31 percent calcium carbonate equivalent; moderately alkaline (pH 8.2); clear wavy boundary.

2Bk2—21 to 32 inches; pink (7.5YR 7/4) gravelly clay loam, light brown (7.5YR 6/4) moist; weak medium prismatic structure parting to weak medium subangular blocky; slightly hard, friable, sticky and plastic; few very fine roots; few very fine tubular pores; 15 percent

fine gravel; many distinct medium calcium carbonate masses and coatings in pores and on ped faces; violently effervescent, 42 percent calcium carbonate equivalent; moderately alkaline (pH 8.4); abrupt wavy boundary.

3Bkb1—32 to 43 inches; light reddish brown (5YR 6/4) and light brown (7.5YR 6/4) fine sandy loam, reddish brown (5YR 5/4) and brown (7.5YR 5/4) moist; moderate medium angular blocky structure; hard, firm, nonsticky and slightly plastic; few very fine roots; few very fine tubular pores; 5 percent fine gravel; common distinct coarse calcium carbonate masses and distinct coatings on ped faces, rock fragments, and in pores; violently effervescent, 29 percent calcium carbonate equivalent; moderately alkaline (pH 8.4); abrupt wavy boundary.

3Bkb2—43 to 64 inches; light reddish brown (5YR 6/4) and light brown (7.5YR 6/4) sandy loam, reddish brown (5YR 5/4) and brown (7.5YR 5/4) moist; moderate medium angular blocky structure; very hard, firm, nonsticky and slightly plastic; few very fine roots; few very fine tubular pores; 5 percent fine gravel; common distinct fine calcium carbonate masses and coatings on ped faces; violently effervescent; moderately alkaline (pH 8.4).

Type location: In an area of Peachsprings-Havasupai complex, 2 to 35 percent slopes; about 600 feet west and 1,300 feet south of the northwest corner of sec. 29, T. 25 N., R. 11 W.

Range in Characteristics

Calcium carbonate equivalent: averages 25 to 35 percent in the calcic horizon
Rock fragments: Surface gravel lag layer averages 30 to 90 percent gravel; control section averages 15 to 35 percent gravel

Bw horizon
Texture: sandy loam, fine sandy loam

2Bk horizons
Texture: loam, sandy clay loam, clay loam

3Bkb horizons
Texture: loamy sand, sandy loam, fine sandy loam

Pearce Series

Depth class: very shallow and shallow to bedrock (lithic)
Drainage class: well drained
Permeability: moderate
Landform: mountains and mesas
Parent material: alluvium and colluvium derived from limestone
Slope: 4 to 75 percent
Elevation: 1,600 to 3,000 feet
Mean annual precipitation: 6 to 12 inches
Mean annual air temperature: 59 to 70 degrees F
Frost-free period: 200 to 280 days
Classification: Loamy-skeletal, mixed, superactive, calcareous, thermic Lithic Torriorthents

Typical Pedon

A—0 to 2 inches; yellowish brown (10YR 5/4) extremely stony loam, dark yellowish brown (10YR 4/4) moist; weak fine granular structure; slightly hard, very friable, nonsticky and nonplastic; few very fine roots; many fine irregular pores; 25 percent gravel, 20 percent cobble, 20 percent stone; strongly effervescent, 30 percent calcium carbonate equivalent; moderately alkaline (pH 8.0); abrupt smooth boundary.

Bk—2 to 7 inches; yellowish brown (10YR 5/4) extremely stony loam, dark yellowish brown (10YR 4/4) moist; weak fine subangular blocky structure; slightly hard, friable, slightly sticky and nonplastic; few very fine roots; few very fine tubular pores; 25 percent gravel, 20 percent cobble, 20 percent stone; strongly effervescent, 34 percent calcium carbonate equivalent; calcium carbonate coats and pendants on underside of some rock fragments; moderately alkaline (pH 8.0); abrupt smooth boundary.

2R—7 inches: limestone bedrock.

Type location: In an area of Pearce extremely stony loam, 4 to 15 percent slopes; about 1,900 feet south and 1,400 feet east of the northwest corner of sec. 29, T. 31 N., R. 16 W.

Range in Characteristics

Clay content: 7 to 18 percent
Organic matter: less than 1 percent
Calcium carbonate equivalent: 5 to 35 percent
Reaction: slightly or moderately alkaline

A and Bk horizons
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 3 or 4, dry or moist
Texture: loam, sandy loam

Pedregosa family

Depth class: shallow to petrocalcic
Drainage class: well drained
Permeability: moderate
Landform: fan terraces
Parent material: alluvium and colluvium derived from igneous and metamorphic rock
Slope: 1 to 15 percent
Elevation: 3,400 to 4,200 feet

Mean annual precipitation: 12 to 16 inches
Mean annual air temperature: 59 to 64 degrees F
Frost-free period: 170 to 230 days
Classification: Loamy-skeletal, mixed, superactive, thermic, shallow Ustic Petrocalcids

Typical Pedon

A—0 to 2 inches; pale brown (10YR 6/3) very cobbly sandy loam, brown (10YR 4/3) moist; moderate thin and medium platy structure parting to moderate very fine subangular blocky; soft, very friable, nonsticky and nonplastic; common very fine and few fine roots; few very fine interstitial and tubular pores; violently effervescent with disseminated carbonates; 25 percent gravel and 15 percent cobbles; moderately alkaline (pH 8.2); abrupt smooth boundary.

Bk1—2 to 6 inches; pale brown (10YR 6/3) very cobbly sandy loam, brown (10YR 4/3) moist; weak medium platy structure parting to moderate very fine subangular blocky; soft, very friable, slightly sticky and slightly plastic; common very fine and fine and few medium roots; few very fine tubular pores; calcium carbonate segregated in few very fine, faint irregular masses; violently effervescent with disseminated carbonates; 20 percent gravel and 25 percent cobbles and channers; moderately alkaline (pH 8.3); clear wavy boundary.

Bk2—6 to 13 inches; light brown (7.5YR 6/4) very cobbly sandy loam, brown (7.5YR 5/4) moist; moderate fine and medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; few medium and common very fine and fine and coarse roots; few very fine and fine tubular pores; calcium carbonate segregated in few very fine and fine faint irregular masses; violently effervescent with disseminated carbonates; 20 percent gravel and 15 percent cobbles and channers; moderately alkaline (pH 8.3); abrupt smooth boundary.

Bkm—13 inches; moderately to strongly cemented petrocalcic with a laterally continuous, strongly cemented to indurated (1/4- to 1/2-inch-thick laminar calcium carbonate cap.

Type location: In an area of Pedregosa-Tombstone families complex, 1 to 15 percent slopes; 35 degrees, 17 minutes, 15.8 seconds north latitude; 113 degrees, 37 minutes, 18.6 seconds west longitude.

Range in Characteristics

Use of the "Pedregosa family" reference term is a convention to reduce name length and implies no specific use of a soil series, reduced mapping intensity, or range of properties beyond that which is described in the map unit description and database. Use, management, and interpretations are not affected.

Rock fragments: 35 to 65 percent in the particle-size control section
Clay content: 14 to 20 percent in the particle-size control section

A horizon
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 3 or 4 dry, 2 to 4 moist

Bk horizons
Hue: 7.5YR, 10YR
Value: 4 to 7 dry, 3 to 5 moist
Chroma: 3 or 4, dry or moist
Texture: sandy loam, loam
Effervescence: strong to violent

Bkm horizons
Hue: 7.5YR, 10YR
Chroma: 1 to 3 dry, 2 or 3 moist
Calcium carbonate equivalent: 40 to 60 percent

Some pedons have Bt horizons.

Some pedons have Bkm horizons expressed as thin laminar, laterally continuous, strongly cemented or indurated calcium carbonate caps directly underlain by bedrock

Pidineen family

Depth class: shallow to petrocalcic
Drainage class: well drained
Permeability: moderately slow
Landform: fan terraces
Parent material: alluvium derived from limestone
Slope: 2 to 10 percent
Elevation: 5,000 to 5,500 feet
Mean annual precipitation: 14 to 18 inches
Mean annual air temperature: 48 to 52 degrees F
Frost-free period: 135 to 150 days
Classification: Loamy, mixed, superactive, mesic, shallow Petrocalcic Calciustolls

Typical Pedon

A—0 to 2 inches; brown (10YR 5/3) gravelly sandy loam, very dark grayish brown (10YR 3/2) moist; weak fine granular structure; soft, very friable, nonsticky and nonplastic; many very fine roots; many very fine irregular pores; 20 percent gravel; slightly effervescent; moderately alkaline (pH 8.0), abrupt smooth boundary.

Bw—2 to 8 inches; brown (10YR 5/3) gravelly sandy loam, very dark grayish brown (10YR 3/2) moist; weak fine subangular blocky structure; slightly hard, very

friable, nonsticky and slightly plastic; many very fine roots; many very fine irregular pores; 20 percent gravel; slightly effervescent; moderately alkaline (pH 8.0), abrupt smooth boundary.

Bk1—8 to 14 inches; brown (10YR 5/3) very gravelly sandy loam, very dark grayish brown (10YR 3/2) moist; weak fine subangular blocky structure; slightly hard, very friable, nonsticky and slightly plastic; many very fine roots; many very fine irregular pores; 50 percent gravel; common moderately thick calcium carbonate coatings on the undersides of rock fragments; common weakly to moderately cemented lenses of calcium carbonate in the lower part; strongly effervescent; moderately alkaline (pH 8.2), abrupt smooth boundary.

Bk2—14 to 19 inches; brown (10YR 5/3) gravelly sandy loam, very dark grayish brown (10YR 3/2) moist; massive; slightly hard, very friable, nonsticky and slightly plastic; common fine roots; many very fine tubular; 20 percent gravel and gravel-sized pan fragments; common moderately thick calcium carbonate coatings on the undersides of rock fragments; violently effervescent; moderately alkaline (pH 8.4), abrupt smooth boundary.

Bkm2—19 inches; indurated petrocalcic horizon

Type location: In an area of Pidineen-Tricon families complex, 2 to 10 percent slopes; about 500 feet north and 500 feet east of the southwest corner of sec. 32, T. 23 N., R. 10 W.

Range in Characteristics

Use of the "Pidineen family" reference term is a convention to reduce name length and implies no specific use of a soil series, reduced mapping intensity, or range of properties beyond that which is described in the map unit description and database. Use, management, and interpretations are not affected.

Depth to a petrocalcic horizon: 8 to 20 inches

A horizon
Hue: 7.5YR, 10YR
Value: 3 to 5 dry, 3 or 4 moist
Chroma: 2 or 3 moist

Bw horizon
Hue: 7.5YR, 10YR
Value: 3 to 5 dry, 3 or 4 moist
Chroma: 2 or 3 moist
Texture: sandy loam, sandy clay loam

Bk horizon
Hue: 7.5YR, 10YR
Value: 4 to 5 dry, 3 or 4 moist
Chroma: 3 or 4 moist
Calcium carbonate equivalent: 15 to 30 percent

Bkm horizons: very strongly cemented or indurated

Pinaleno family

Depth class: very deep
Drainage class: well drained
Permeability: moderately rapid
Landform: fan terraces
Parent material: alluvium derived from mixed rock sources
Slope: 1 to 4 percent
Elevation: 2,500 to 2,800 feet
Mean annual precipitation: 6 to 9 inches
Mean annual air temperature: 64 to 70 degrees F
Frost-free period: 230 to 280 days
Classification: Loamy-skeletal, mixed, superactive, thermic Typic Calciargids

Typical Pedon

A—0 to 2 inches; pink (7.5YR 7/4) very gravelly sandy loam, brown (7.5YR 4/4) moist; moderate thick platy structure; hard, friable, slightly sticky and plastic; very few fine roots; many fine and medium vesicular, and few very fine tubular pores; thin continuous clay films lining pores; many bleached sand grains; 45 percent gravel, 5 percent cobble; slightly effervescent; moderately alkaline (pH 8.0); abrupt smooth boundary.

Bt—2 to 8 inches; light reddish brown (5YR 6/4) very gravelly sandy clay loam, reddish brown (5YR 4/4) moist; moderate fine and medium subangular blocky structure; hard, friable, sticky and plastic; few fine roots; common fine and medium vesicular and tubular pores; thin continuous clay films on faces of peds and lining pores; 25 percent gravel, 10 percent cobble; noneffervescent; moderately alkaline (pH 8.0); abrupt wavy boundary.

Btk—8 to 13 inches; light reddish brown (5YR 6/4) very gravelly sandy clay loam, reddish brown (5YR 4/4) moist; massive; hard, friable, slightly sticky and slightly plastic; few very fine roots; few very fine tubular pores; 25 percent gravel, 10 percent cobble; strongly effervescent; moderately alkaline (pH 8.2); abrupt wavy boundary.

Bk—13 to 60 inches; pink (7.5YR 7/4) very gravelly sandy loam, brown (7.5YR 5/4) moist; massive; hard, friable, slightly sticky and slightly plastic; few very fine roots; few very fine tubular pores; 45 percent gravel, 5 percent cobble; violently effervescent; moderately alkaline (pH 8.2); clear wavy boundary.

Type location: In an area of Skelon family-Pinaleno family complex, 1 to 4 percent slopes; about 3,440 feet north and 1,860 feet west of the southeast corner of sec. 27, T. 27 N., R. 20 W.

Range in Characteristics

Use of the "Pinaleno family" reference term is a convention to reduce name length and implies no specific use of a soil series, reduced mapping intensity, or range of properties beyond that which is described in the map unit description and database. Use, management, and interpretations are not affected.

Depth to calcic horizon: 5 to 20 inches
Depth to lower boundary of Bt horizon: 5 to 15 inches

Control section
Percent clay: averages 20 to 24 percent
Rock fragments: Average 35 to 60 percent

A horizon
Hue: 7.5YR, 5YR
Value: 6 or 7 dry, 4 or 5 moist
Chroma: 2 to 4, dry or moist

Bt horizon
Hue: 5YR, 7.5YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 4 to 6, dry or moist
Texture: sandy clay loam, loam
Clay content: averages 20 to 24 percent

Btk horizon
Hue: 5YR, 7.5YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 4 to 6, dry or moist
Texture: sandy clay loam
Clay content: 20 to 24 percent

Bk horizon
Hue: 5YR, 7.5YR
Value: 5 or 6 moist
Clay content: 6 to 15 percent
Rock fragments: 35 to 60 percent

Prieta Series

Depth class: shallow to bedrock (lithic)
Drainage class: well drained
Permeability: slow
Landform: mesas
Parent material: alluvium derived from basalt
Slope: 2 to 35 percent
Elevation: 4,200 to 5,000 feet
Mean annual precipitation: 10 to 14 inches
Mean annual air temperature: 58 to 62 degrees F
Frost-free period: 135 to 175 days
Classification: Clayey-skeletal, mixed, superactive, mesic Lithic Ustic Haplargids

Typical Pedon

A—0 to 2 inches; brown (10YR 4/3) extremely cobbly loam, very dark brown (10YR 2/2) moist; weak fine granular structure; slightly hard, very friable, nonsticky and nonplastic; common fine roots; many very fine irregular pores; 10 percent gravel, 40 percent cobble, and 10 percent stone; moderately alkaline (pH 8.0); noneffervescent; abrupt smooth boundary.

Bt1—2 to 4 inches; brown (10YR 4/3) very cobbly clay loam, very dark brown (10YR 2/2) moist; moderate fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common medium roots; many very fine tubular pores; few thin clay films on faces of peds and lining pores; 20 percent gravel, 30 percent cobble; noneffervescent; moderately alkaline (pH 8.0); abrupt wavy boundary.

Bt2—4 to 12 inches; brown (10YR 4/3) very cobbly clay, dark yellowish brown (10YR 3/4) moist; strong very fine subangular blocky structure; hard, firm, very sticky and very plastic; common medium roots; many very fine tubular pores; few thin clay films on faces of peds and lining pores; 20 percent gravel, 30 percent cobble; noneffervescent; moderately alkaline (pH 8.0); abrupt smooth boundary.

2Cr—12 to 14 inches; weathered basalt bedrock.

2R—14 inches; basalt bedrock.

Type location: In an area of Prieta-Rock outcrop complex, 2 to 35 percent slopes; about 1,300 feet north and 1,200 feet west of the southwest corner of sec. 21, T. 29 N., R. 15 W.

Range in Characteristics

Depth to bedrock: 10 to 20 inches
Content of rock fragments in the control section: 35 to 70 percent

Bt horizon
Texture: clay, clay loam, silty clay loam
Reaction: neutral or slightly alkaline
Effervescence: noneffervescent or slightly effervescent

Promontory Series

Depth class: very shallow and shallow to petrocalcic
Drainage class: well drained
Permeability: moderately slow
Landform: plateaus
Parent material: alluvium derived from rhyolite
Slope: 3 to 12 percent
Elevation: 4,300 to 5,100 feet
Mean annual precipitation: 10 to 14 inches

Mean annual air temperature: 52 to 55 degrees F
Frost-free period: 150 to 165 days
Classification: Loamy, mixed, superactive, mesic, shallow Ustic Petrocalcids

Typical Pedon

A—0 to 2 inches; brown (7.5YR 5/4) gravelly sandy loam, brown (7.5YR 4/4) moist; weak thin platy parting to weak fine granular structure; soft, very friable, nonsticky and nonplastic; few very fine roots; few very fine irregular pores; 30 percent gravel; strongly effervescent, 4 percent calcium carbonate equivalent; slightly alkaline (pH 7.8); abrupt smooth boundary.

Bw1—2 to 12 inches; strong brown (7.5YR 4/6) gravelly sandy clay loam, brown (7.5YR 4/4) moist; weak fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common fine and medium roots; common fine irregular pores; 20 percent gravel and 5 percent cobble; violently effervescent, 8 percent calcium carbonate equivalent; moderately alkaline (pH 8.0); abrupt smooth boundary.

Bw2—12 to 17 inches; brown (7.5YR 5/4) gravelly sandy clay loam, brown (7.5YR 4/4) moist; weak fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common fine and medium roots; common fine irregular pores; 20 percent gravel and 5 percent cobble; violently effervescent, 8 percent calcium carbonate equivalent; moderately alkaline (pH 8.0); abrupt smooth boundary.

2Bkm—17 to 19 inches; calcium carbonate cemented petrocalcic with discontinuous laminar cap; abrupt smooth boundary.

3R—19 inches; rhyolite.

Type location: In an area of Kingtut-Promontory complex, 3 to 12 percent slopes; about 330 feet south of the northeast corner of sec. 16, T. 24 N., R. 13 W.

Range in Characteristics

Reaction: slightly or moderately alkaline
Rock fragments: 5 to 35 percent gravel
Organic matter content: 1 to 2 percent in the surface layer
Clay content: 20 to 35 percent in the control section

A horizon
Hue: 7.5YR, 10YR
Value: 4 or 5, dry or moist
Chroma: 3 or 4, dry or moist

B horizon
Value: 3 to 5, dry or moist
Chroma: 4 to 6, dry or moist

Quagwa Series

Depth class: very deep
Drainage class: well drained
Permeability: moderate
Landform: stream terraces
Parent material: alluvium derived from mixed rock sources
Slope: 1 to 3 percent
Elevation: 5,100 to 5,900 feet
Mean annual precipitation: 10 to 14 inches
Mean annual air temperature: 52 to 55 degrees F
Frost-free period: 135 to 175 days
Classification: Fine-loamy, mixed, superactive, mesic Ustic Haplargids

Typical Pedon

A—0 to 2 inches; light brown (7.5YR 6/4) silt loam, brown (7.5YR 4/4) moist; weak medium platy structure; slightly hard, very friable, sticky and slightly plastic; many very fine roots; many very fine irregular pores; slightly effervescent; slightly alkaline (pH 7.5); abrupt smooth boundary.

Bw—2 to 5 inches; brown (7.5YR 5/4) silt loam, brown (7.5YR 4/4) moist; weak medium subangular blocky structure; slightly hard, very friable, sticky and slightly plastic; many very fine roots; common very fine and few fine tubular pores; slightly effervescent; slightly alkaline (pH 7.5); abrupt smooth boundary.

Bt—5 to 14 inches; brown (7.5YR 5/4) silt loam, brown (7.5YR 4/4) moist; moderate coarse subangular blocky structure; hard, friable, slightly sticky and slightly plastic; common very fine roots; many very fine and few fine tubular pores; few faint clay films lining pores; slightly effervescent; slightly alkaline (pH 7.6); abrupt smooth boundary.

Btk1—14 to 30 inches; brown (7.5YR 4/3) silt loam, dark brown (7.5YR 3/3) moist; moderate coarse prismatic structure parting to moderate medium subangular blocky; hard, friable, sticky and slightly plastic; few very fine roots; common very fine and few fine tubular pores; common faint clay films lining pores and on ped faces; few fine soft calcium carbonate filaments and thin coatings in pores and on ped faces; violently effervescent; slightly alkaline (pH 7.7); clear wavy boundary.

Btk2—30 to 50 inches; brown (7.5YR 4/4) clay loam, dark brown (7.5YR 3/4) moist; weak coarse prismatic structure parting to moderate medium subangular blocky; hard, friable, slightly sticky and slightly plastic; few very fine roots; few very fine

tubular pores; few faint clay films lining pores and on ped faces; common fine soft calcium carbonate masses and thin coatings in pores and on ped faces; violently effervescent; slightly alkaline (pH 7.7); abrupt wavy boundary.

Btk3—50 to 62 inches; strong brown (7.5YR 5/6) loam, strong brown (7.5YR 4/6) moist; weak medium prismatic structure; hard, friable, slightly sticky and slightly plastic; few very fine roots; few very fine tubular pores; few faint clay films lining pores; few thin calcium carbonate coatings in pores; violently effervescent; slightly alkaline (pH 7.8).

Type location: In an area of Quagwa silt loam, 1 to 3 percent slopes; about 2,500 feet east and 900 feet north of the southwest corner of sec.10, T. 25 N., R. 10 W.; about 1.5 miles north of Silt Tank.

Range in Characteristics

Calcium carbonate equivalent: 1 to 14 percent
Subsoil texture: loam, silt loam, clay loam

Quartermaster Series

Depth class: moderately deep to petrocalcic
Drainage class: well drained
Permeability: moderate
Landform: fan terraces
Parent material: alluvium derived from mixed rock sources
Slope: 2 to 12 percent
Elevation: 4,600 to 5,500 feet
Mean annual precipitation: 14 to 16 inches
Mean annual air temperature: 52 to 54 degrees F
Frost-free period: 120 to 160 days
Classification: Fine-loamy, mixed, mesic Aridic Calciustepts

Typical Pedon

85 percent gravel on the surface.

A—0 to 2 inches; yellowish brown (10YR 5/4) extremely gravelly sandy loam, dark yellowish brown (10YR 4/4) moist; weak thick platy structure parting to moderate fine granular; soft, very friable, nonsticky and nonplastic; many very fine roots; many very fine irregular pores; 85 percent gravel; violently effervescent, 15 percent calcium carbonate equivalent; moderately alkaline (pH 8.0); abrupt smooth boundary.

Bw—2 to 8 inches; yellowish brown (10YR 5/4) loam, dark yellowish brown (10YR 4/4) moist; weak fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine roots; common very fine tubular and irregular pores; 12 percent gravel; violently effervescent, 16 percent calcium carbonate equivalent; slightly alkaline (pH 7.8); clear smooth boundary.

Bk1—8 to 19 inches; yellowish brown (10YR 5/4) loam, dark yellowish brown (10YR 4/4) moist; moderate coarse subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine, few fine and few medium roots; common very fine and few fine tubular pores; 10 percent gravel; few distinct calcium carbonate masses on peds and as coatings on gravel; violently effervescent, 18 percent calcium carbonate equivalent; slightly alkaline (pH 7.8); abrupt wavy boundary.

Bk2—19 to 26 inches; yellowish brown (10YR 5/4) cobbly loam, dark yellowish brown (10YR 4/4) moist; weak fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and few fine, medium and coarse roots; few very fine tubular pores; 15 percent cobble and 10 percent gravel, consisting of limestone and hardpan fragments; many prominent calcium carbonate pendants on undersides of rock fragments; violently effervescent, 21 percent calcium carbonate equivalent; moderately alkaline (pH 8.0); abrupt wavy boundary.

2Bkm—26 to 60 inches; laminar-capped petrocalcic horizon; violently effervescent.

Type location: In an area of Milkweed-Quartermaster-Buckndoe complex, 2 to 20 percent slopes; about 2,200 feet west and 2,600 feet south of the northeast corner of sec. 31, T. 28 N., R. 14 W.

Range in Characteristics

Depth to petrocalcic horizon: 20 to 40 inches
Rock fragments: 5 to 30 percent in the control section
Content of gravel on the surface: 40 to 85 percent
Reaction: slightly to moderately alkaline

Bw horizon
Texture: sandy loam, loam, sandy clay loam

Bk horizons
Texture: sandy clay loam, loam
Calcium carbonate equivalent: 15 to 40 percent. Weak to strong cementation in the lower part.

Razorback Series

Depth class: very shallow and shallow to bedrock (lithic)
Drainage class: somewhat excessively drained
Permeability: moderate
Landform: hills and mountains
Parent material: alluvium and/or colluvium derived from igneous rock

Slope: 15 to 70 percent
Elevation: 2,000 to 5,000 feet
Mean annual precipitation: 9 to 12 inches
Mean annual air temperature: 59 to 70 degrees F
Frost-free period: 200 to 280 days
Classification: Loamy-skeletal, mixed, superactive, calcareous, thermic Lithic Torriorthents

Typical Pedon

A—0 to 2 inches; light yellowish brown (10YR 6/4) extremely gravelly loam, dark yellowish brown (10YR 4/4) moist; weak thin platy structure; soft, very friable, nonsticky and nonplastic; few fine roots; few fine irregular pores; 10 percent cobble, 65 percent gravel; strongly effervescent; moderately alkaline (pH 8.0); clear smooth boundary.

C—2 to 15 inches; light yellowish brown (10YR 6/4) very gravelly loam, dark yellowish brown (10YR 4/4) moist; weak medium subangular blocky structure; soft, very friable, nonsticky and nonplastic; few fine roots; few fine tubular pores; 40 percent gravel; calcium carbonate coatings on underside of gravel; strongly effervescent; moderately alkaline (pH 8.0); abrupt wavy boundary.

2R—15 inches; andesite, calcium carbonate coatings in fractures.

Type location: In an area of Razorback-Rock outcrop complex, 20 to 70 percent slopes; about 2,000 feet west and 1,500 feet north of the southeast corner of sec. 27, T. 14 N., R. 17 W.

Range in Characteristics

A horizon
Hue: 10YR, 7.5YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 3 or 4, dry or moist
Rock fragments: 35 to 75 percent gravel, cobble, and stone

Bw horizon
Hue: 10YR, 7.5YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 3 or 4, dry or moist
Texture: loam, sandy loam (7 to 18 percent clay)
Rock fragments: 35 to 70 percent gravel

Rift Series

Depth class: very deep
Drainage class: well drained
Permeability: slow
Landform: basin floors
Parent material: alluvium derived from mixed rock sources
Slope: 0 to 1 percent
Elevation: 2,800 to 3,500 feet
Mean annual precipitation: 9 to 12 inches
Mean annual air temperature: 57 to 70 degrees F
Frost-free period: 200 to 280 days
Classification: Fine-silty, mixed, superactive, calcareous, thermic Typic Torrifluvents

Typical Pedon

A—0 to 4 inches; yellowish brown (10YR 5/4) silty clay loam, dark yellowish brown (10YR 4/4) moist; weak thin platy structure; slightly hard, very friable, sticky and plastic; common very fine roots, mostly on the faces of the plates; few very fine tubular pores; slightly effervescent; moderately alkaline (pH 8.2); abrupt smooth boundary.

C—4 to 16 inches; yellowish brown (10YR 5/4) silty clay loam, dark yellowish brown (10YR 4/4) moist; weak medium platy structure parting to moderate fine subangular blocky; hard, friable, very sticky and very plastic; common very fine and fine roots; many very fine tubular pores; slightly effervescent; moderately alkaline (pH 8.4); abrupt smooth boundary.

Cn1—16 to 23 inches; yellowish brown (10YR 5/4) silty clay loam, dark yellowish brown (10YR 4/4) moist; weak medium platy structure parting to moderate fine subangular blocky with pockets of strong thin platy; hard, friable, very sticky and very plastic; few very fine roots; many very fine tubular pores; slightly effervescent; strongly alkaline (pH 8.6); abrupt smooth boundary.

Cn2—23 to 44 inches; light yellowish brown (10YR 6/4) silt loam with thin strata of coarser material; brown (10YR 5/3) moist; moderate thin platy structure; hard, very friable, slightly sticky and slightly plastic; few very fine roots; few very fine and fine pores; slightly effervescent; slightly saline (ECe 8 dS/m); strongly alkaline (pH 8.6); abrupt smooth boundary.

C"—44 to 60 inches; light brownish gray (10YR 6/2) sandy clay loam, brown (10YR 5/3) moist; moderate fine subangular blocky structure; very hard, very friable, slightly sticky and slightly plastic; few very fine roots; few very fine and fine tubular pores; slightly effervescent; slightly saline (ECe 8 dS/m); moderately alkaline (pH 8.2).

Type location: In an area of Rift silty clay loam, 0 to 1 percent slopes; about 2,150 feet east and 1,700 feet north of the southwest corner of sec. 1, T. 25 N., R. 17 W.

Range in Characteristics

Rock fragments: less than 15 percent
Clay content: 18 to 35 percent
Effervescence: slightly or strongly
Reaction: moderately or strongly alkaline

A horizon
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 3 or 4, dry or moist

C horizons
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 2 to 4 dry, 3 or 4 moist
Texture: stratified silty clay loam, silt loam and sandy clay loam with thin strata of coarser material
Salinity: nonsaline to moderate
Sodicity: slight to moderate (SAR 0 to 30)

Rillino family

Depth class: very deep
Drainage class: well drained
Permeability: moderately rapid
Landform: fan terraces
Parent material: alluvium derived from mixed rock sources
Slope: 1 to 4 percent
Elevation: 3,000 to 3,400 feet
Mean annual precipitation: 9 to 12 inches
Mean annual air temperature: 59 to 64 degrees F
Frost-free period: 200 to 230 days
Classification: Coarse-loamy, mixed, superactive, thermic Typic Haplocalcids

Typical Pedon

A—0 to 2 inches; brown (10YR 5/3) sandy loam, brown (10YR 4/3) moist; weak fine granular structure; slightly hard, very friable, nonsticky and nonplastic; few fine roots; few fine tubular pores; 10 percent gravel, slightly effervescent; moderately alkaline (pH 8.0); abrupt smooth boundary.

Bw—2 to 11 inches; yellowish brown (10YR 5/4) sandy loam, dark yellowish brown (10YR 4/4) moist; weak fine subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; few fine roots, few fine tubular pores, 10 percent gravel; strongly effervescent; moderately alkaline (pH 8.2); clear wavy boundary.

Bk1—11 to 16 inches; yellowish brown (10YR 5/4) gravelly sandy loam, dark yellowish brown (10YR 4/4) moist; weak fine subangular blocky structure; hard, very friable, nonsticky and nonplastic; few fine roots, few fine tubular pores, 15 percent gravel; few fine soft calcium carbonate filaments; violently effervescent; moderately alkaline (pH 8.2); clear wavy boundary.

Bk2—16 to 39 inches; light yellowish brown (10YR 6/4) gravelly sandy loam, yellowish brown (10YR 5/4) moist; weak fine subangular blocky structure; hard, very friable, nonsticky and nonplastic; few fine roots, few fine tubular pores, 20 percent gravel; common medium soft calcium carbonate masses; 22 percent calcium carbonate equivalent; violently effervescent; moderately alkaline (pH 8.2); clear wavy boundary.

C1—39 to 49 inches; yellowish brown (10YR 5/4) gravelly sandy loam, dark yellowish brown (10YR 4/4) moist; massive; hard, very friable, nonsticky and nonplastic; few fine roots; few fine tubular pores; 30 percent gravel; violently effervescent; moderately alkaline (pH 8.2); abrupt smooth boundary.

C2—49 to 60 inches; yellowish brown (10YR 5/4) extremely gravelly sandy loam, yellowish brown (10YR 5/4) moist; massive; hard, very friable, nonsticky and nonplastic; few fine roots; common fine interstitial pores; 70 percent gravel; violently effervescent; moderately alkaline (pH 8.2).

Type location: In an area of Rillino family-Shamock family-Dutchflat complex, about 2,600 feet south and 20 feet west of the northeast corner of sec. 24, T. 24 N., R. 19 W.

Range in Characteristics

Use of the "Rillino family" reference term is a convention to reduce name length and implies no specific use of a soil series, reduced mapping intensity, or range of properties beyond that which is described in the map unit description and database. Use, management, and interpretations are not affected.

Clay content: less than 18 percent
Rock fragments: less than 35 percent in the particle-size control section
Depth to calcic horizon: less than 20 inches

A and Bw horizons
Hue: 10YR, 7.5YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 3 or 4, dry or moist

Bk horizons
Hue: 10YR, 7.5YR
Value: 5 to 7 dry, 4 to 6 moist
Chroma: 3 or 4, dry or moist
Texture: sandy loam, loamy sand, sand

C horizons are not present in all pedons.

Riverbend Series

Depth class: very deep
Drainage class: excessively drained
Permeability: rapid
Landform: fan terraces
Parent material: alluvium derived from mixed rock sources
Slope: 2 to 15 percent
Elevation: 600 to 1,800 feet
Mean annual precipitation: 3 to 6 inches
Mean annual air temperature: 70 to 74 degrees F
Frost-free period: 270 to 320 days
Classification: Sandy-skeletal, mixed, hyperthermic Typic Haplocalcids

Typical Pedon

A—0 to 2 inches; brown (7.5YR 5/4) very cobbly sandy loam, brown (7.5YR 4/4) moist; moderate medium platy structure; soft, friable, nonsticky and nonplastic; common fine roots; many fine irregular pores; 25 percent cobble and 30 percent gravel; strongly effervescent; moderately alkaline (pH 7.9); abrupt wavy boundary.

Bw—2 to 7 inches; brown (7.5YR 5/4) very gravelly sandy loam, brown (7.5YR 4/4) moist; weak medium subangular blocky structure; soft, friable, nonsticky and nonplastic; common fine roots; common fine tubular pores; 5 percent cobble and 30 percent gravel; strongly effervescent; moderately alkaline (pH 8.0); abrupt wavy boundary.

Bk1—7 to 18 inches; light brown (7.5YR 6/4) very cobbly loamy sand, brown (7.5YR 5/4) moist; massive; loose, nonsticky and nonplastic; common very fine roots; many fine irregular pores; 20 percent cobble and 30 percent calcium carbonate-coated gravel; many large soft calcium carbonate accumulations; violently effervescent, 12 percent calcium carbonate equivalent; moderately alkaline (pH 8.0); clear wavy boundary.

Bk2—18 to 34 inches; light brown (7.5YR 6/4) very gravelly loamy sand, brown (7.5YR 5/4) moist; single grain; loose, nonsticky and nonplastic; few very fine roots; common fine irregular pores; 40 percent calcium carbonate-coated gravel; common medium soft calcium carbonate accumulations; violently effervescent, 16 percent calcium carbonate equivalent; moderately alkaline (pH 8.2); clear wavy boundary.

Bk3—34 to 60 inches; brown (7.5YR 5/4) very gravelly sand, brown (7.5YR 4/4) moist; single grain; loose, nonsticky and nonplastic; few very fine roots; common fine irregular pores; 10 percent cobble and 45 percent calcium carbonate-coated gravel; strongly effervescent, 10 percent calcium carbonate equivalent; moderately alkaline (pH 8.0).

Type location: In an area of Chuckwalla-Riverbend complex. 2 to 15 percent slopes; about 680 feet west and 2,350 feet north of the southeast corner of sec. 25, T. 161/2 N., R. 201/2 W.

Range in Characteristics

A horizon
Hue: 7.5YR, 10YR
Value: 5 or 6 dry
Rock fragments: 50 to 55 percent cobbles and gravel

Bw horizon
Hue: 7.5YR, 10YR
Value: 5 or 6 dry
Coarse fragments: 35 to 45 percent gravel
Not present in all pedons.

Bk horizon
Hue: 7.5YR, 10YR
Value: 5 to 7 dry
Calcium carbonate equivalent: 10 to 20 percent
Texture: loamy sand, sand
Rock fragments: 50 to 60 percent cobbles and gravel

Rolie Series

Depth class: very shallow and shallow to petrocalcic
Drainage class: well drained
Permeability: moderate
Landform: fan terraces
Parent material: alluvium derived from limestone
Slope: 2 to 20 percent
Elevation: 4,500 to 5,200 feet
Mean annual precipitation: 10 to 14 inches
Mean annual air temperature: 52 to 55 degrees F
Frost-free period: 135 to 175 days
Classification: Loamy, mixed, superactive, mesic, shallow Ustic Petrocalcids

Typical Pedon

A—0 to 1 inch; yellowish brown (10YR 5/4) very gravelly loam, dark yellowish brown (10YR 4/4) moist; weak thick platy structure; slightly hard friable, slightly sticky and slightly plastic; many fine roots; many very fine vesicular pores; 40 percent gravel; strongly effervescent, 8 percent calcium carbonate equivalent; slightly alkaline (pH 7.7); clear smooth boundary.

Bk1—1 to 4 inches; dark yellowish brown (10YR 4/4) gravelly loam, dark yellowish brown (10YR 3/4) moist; moderate fine subangular blocky structure; slightly plastic; many very fine roots; many very fine tubular pores; 20 percent calcium carbonate-coated gravel; strongly effervescent, 15 percent calcium

carbonate equivalent; slightly alkaline (pH 7.8); clear smooth boundary.

Bk2—4 to 9 inches; dark yellowish brown (10YR 4/4) cobbly loam, dark yellowish brown (10YR 3/4) moist; weak medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine roots; common very fine tubular pores; 10 percent calcium carbonate-coated gravel and 20 percent coated cobble; violently effervescent, 16 percent calcium carbonate equivalent; slightly alkaline (pH 7.8); abrupt smooth boundary.

Bkm1—9 to 15 inches; fractured, indurated petrocalcic with roots and soil material in fractures; abrupt smooth boundary.

Bkm2—15 to 60 inches; indurated petrocalcic.

Type location: In an area of Rolie-Dean complex, 2 to 20 percent slopes; about 1,800 feet east and 1,000 feet south of the northwest corner of sec. 1, T. 29 N., R. 6 W.

Range in Characteristics

Depth to a petrocalcic horizon: 6 to 20 inches

Control section
Rock fragments: 5 to 35 percent
Clay content: 20 to 27 percent

Bk horizon
Texture: loam, silt loam
Reaction: slightly alkaline or moderately alkaline

Romero Series

Depth class: very shallow and shallow to bedrock (paralithic)
Drainage class: well drained
Permeability: moderately rapid
Landform: hills and mountains
Parent material: alluvium derived from granite
Slope: 5 to 70 percent
Elevation: 3,400 to 5,600 feet
Mean annual precipitation: 12 to 16 inches
Mean annual air temperature: 57 to 61 degrees F
Frost-free period: 180 to 210 days
Classification: Loamy-skeletal, mixed, superactive, nonacid, thermic, shallow Ustic Torriorthents

Typical Pedon

A—0 to 1 inch; dark yellowish brown (10YR 4/4) extremely cobbly sandy loam, dark yellowish brown (10YR 3/4) moist; weak fine granular structure; soft, very friable, nonsticky and nonplastic; common very fine roots; common very fine irregular pores; 40 percent gravel, 20 percent cobble, and 5 percent stones; noneffervescent; neutral (pH 7.2); abrupt smooth boundary.

Bw—1 to 6 inches; dark yellowish brown (10YR 4/4) very gravelly sandy clay loam, dark yellowish brown (10YR 3/4) moist; weak fine subangular blocky structure; slightly hard, very friable, slightly sticky and nonplastic; common very fine roots; common very fine tubular pores; 35 percent gravel and 5 percent cobble; noneffervescent; neutral (pH 7.2); abrupt smooth boundary.

2Cr—6 to 60 inches; slightly weathered granite bedrock.

Type location: In an area of Romero-Lampshire-Rock outcrop complex, 35 to 70 percent slopes; about 2,450 feet south, 250 feet west of the northeast corner of sec. 10, T. 15 N., R. 11 W.

Range in Characteristics

Rock fragments: average 35 to 90 percent

A horizon
Hue: 10YR, 7.5YR
Value: 3 or 4, dry or moist
Chroma: 3 or 4, dry or moist
Texture: sandy loam, fine sandy loam

Romero family

Depth class: very shallow and shallow to bedrock (paralithic)
Drainage class: well drained
Permeability: moderately rapid
Landform: hills and mountains
Parent material: alluvium and/or colluvium derived from metamorphic rock over residuum weathered from metamorphic rock
Slope: 15 to 65 percent
Elevation: 4,200 to 5,800 feet
Mean annual precipitation: 12 to 16 inches
Mean annual air temperature: 59 to 64 degrees F
Frost-free period: 170 to 230 days
Classification: Loamy-skeletal, mixed, superactive, nonacid, thermic, shallow Ustic Torriorthents

Typical Pedon

A—0 to 2 inches; brown (10YR 5/3) very gravelly sandy loam, brown (10YR 4/3) moist; weak medium platy structure parting to weak very fine subangular

blocky; soft, very friable, nonsticky and nonplastic; common very fine and fine roots; common very fine tubular pores; 45 percent gravel, 5 percent channers and 5 percent cobble; noneffervescent; moderately acid (pH 6.0); clear wavy boundary.

Bw—2 to 7 inches; yellowish brown (10YR 5/4) extremely cobbly sandy loam, brown (10YR 4/3) moist; moderate very fine and fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; 25 percent gravel, 10 percent channers and 30 percent cobble; noneffervescent to very slightly effervescent; neutral (pH 7.3); abrupt wavy boundary.

2Cr—7 to 21 inches; moderately weathered to highly weathered schist with soil in fractures; fracture faces are coated with calcium carbonate, abrupt irregular boundary.

2R—21 inches; fractured very slightly weathered to unweathered, hard schist.

Type location: In an area of Nodman-Romero family complex, 15 to 65 percent slopes; 35 degrees, 14 minutes, 21.1 seconds north latitude; 113 degrees, 46 seconds, 2.7 minutes west longitude.

Range in Characteristics

Use of the "Romero family" reference term is a convention to reduce name length and implies no specific use of a soil series, reduced mapping intensity, or range of properties beyond that which is described in the map unit description and database. Use, management, and interpretations are not affected.

Rock fragments: 35 to 65 percent in the particle-size control section
Reaction: moderately acid to slightly alkaline
Clay content: 8 to 18 percent in the particle-size control section
Effervescence: none to slight

A horizons
Hue: 7.5YR, 10YR
Value: 4 to 5 dry, 3 to 4 moist
Chroma: 3 to 4, dry or moist

Bw horizons
Hue: 10YR, 7.5YR
Value: 4 or 5 dry, 3 or 4 moist
Chroma: 3 or 4, dry or moist
Texture: sandy loam, loam

Rositas Series

Depth class: very deep
Drainage class: somewhat excessively drained
Permeability: rapid
Landform: dunes
Parent material: eolian sands derived from mixed rock sources
Slope: 4 to 30 percent
Elevation: 1,100 to 1,300 feet
Mean annual precipitation: 3 to 6 inches
Mean annual air temperature: 70 to 78 degrees F
Frost-free period: 280 to 320 days
Classification: Mixed, hyperthermic Typic Torripsamments

Typical Pedon

C—0 to 60 inches; reddish yellow (7.5YR 7/6) sand, strong brown (7.5YR 5/6) moist; single grained; loose, very friable; common fine and medium roots; strongly effervescent, moderately alkaline (pH 8.0).

Type location: In an area of Rositas sand, 4 to 30 percent slopes; about 1,200 feet north and 2,900 feet east of the southeast corner of sec. 6, T. 29 N., R. 20 W.

Range in Characteristics

Calcium carbonate: slightly to strongly effervescent
Organic matter: less than 0.5 percent and decreases regularly with depth

C horizon
Hue: 10YR, 7.5YR
Value: 5 to 7, dry or moist
Chroma: 4 to 6, dry or moist
Texture: sand, loamy sand, fine sand, loamy fine sand. The 10- to 40-inch control section has less than 15 percent coarse and very coarse sand.

Shamock family

Depth class: moderately deep to duripan
Drainage class: well drained
Permeability: moderately rapid
Landform: fan terraces
Parent material: alluvium derived from mixed rock sources
Slope: 1 to 8 percent
Elevation: 3,000 to 3,400 feet
Mean annual precipitation: 9 to 12 inches
Mean annual air temperature: 59 to 64 degrees F
Frost-free period: 200 to 230 days
Classification: Coarse-loamy, mixed, superactive, thermic Typic Haplodurids

Typical Pedon

A—0 to 3 inches; brown (10YR 5/3) gravelly sandy loam, brown (10YR 4/3) moist; weak fine granular

structure; soft, very friable, nonsticky and nonplastic; many very fine roots; common fine tubular pores; 30 percent gravel; slightly effervescent; moderately alkaline (pH 8.0); abrupt smooth boundary.

Bk—3 to 23 inches; pale brown (10YR 6/3) loam, brown (10YR 5/3) moist; weak fine subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; common very fine roots, few fine tubular pores; few calcium carbonate seams and filaments; 10 percent gravel; violently effervescent; moderately alkaline (pH 8.0); abrupt smooth boundary.

2Bkqm—23 inches; indurated duripan.

Type location: In an area of Nealy-Shamock family complex, 2 to 8 percent slopes; about 500 feet south and 600 feet west of the northeast corner of sec. 5, T. 24 N., R. 19 W.

Range in Characteristics

Use of the "Shamock family" reference term is a convention to reduce name length and implies no specific use of a soil series, reduced mapping intensity, or range of properties beyond that which is described in the map unit description and database. Use, management, and interpretations are not affected.

Control section
Clay content: 5 to 18 percent
Rock fragments: average 10 to 35 percent

A horizon
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 3 to 4, dry or moist

Bk horizon
Value: 5 to 7 dry, 4 to 6 moist
Chroma: 3 or 4, dry or moist

2Bkqm horizons
Rupture resistance: strongly cemented to indurated

Shortbread Series

Depth class: very deep
Drainage class: somewhat excessively drained
Permeability: rapid
Landform: fan terraces
Parent material: alluvium derived from mixed rock sources
Slope: 1 to 4 percent
Elevation: 2,800 to 3,600 feet
Mean annual precipitation: 9 to 12 inches
Mean annual air temperature: 57 to 64 degrees F
Frost-free period: 200 to 230 days
Classification: Sandy, mixed, thermic Typic Torriorthents

Typical Pedon

A—0 to 1 inch; brown (10YR 4/3) loamy sand, dark brown (10YR 3/3) moist; weak fine granular structure; soft, very friable, nonsticky and nonplastic; many very fine roots; many very fine irregular pores; 1 percent gravel; noneffervescent; slightly alkaline (pH 7.8); abrupt smooth boundary.

C1—1 to 28 inches; brown (10YR 5/3) loamy sand, brown (10YR 4/3) moist; massive; slightly hard, very friable, nonsticky and nonplastic; common very fine and fine roots; many very fine irregular pores; 1 percent gravel; noneffervescent; moderately alkaline (pH 8.0); clear wavy boundary.

C2—28 to 38 inches; brown (10YR 5/3) sandy loam, brown (10YR 4/3) moist; massive; slightly hard, very friable, nonsticky and nonplastic; common very fine and fine roots; many very fine irregular pores; 1 percent gravel; slightly effervescent; moderately alkaline (pH 8.0); abrupt wavy boundary.

C3—38 to 60 inches; brown (10YR 5/3) loamy sand, brown (10YR 4/3) moist; massive; slightly hard, very friable, nonsticky and nonplastic; few very fine and fine roots; many very fine irregular pores; 10 percent fine gravel; slightly effervescent; moderately alkaline (pH 8.0).

Type location: In an area of Shortbread loamy sand, 1 to 4 percent slopes; 2,000 feet east and 700 feet north of the southeast corner section 18, T. 24 N., R. 16 W. Located 35 degrees, 27 minutes, 32 seconds north latitude and 114 degrees, 01 minutes, 08 seconds west longitude.

Range in Characteristics

Rock fragments: less than 15 percent gravel
Effervescence: noneffervesent to 20 inches or more

A and C horizons
Value: 4 or 5 dry, 3 or 4 moist
Chroma: 3 or 4, dry or moist

Skelon family

Depth class: moderately deep to duripan
Drainage class: well drained
Permeability: moderately rapid
Landform: fan terraces
Parent material: alluvium derived from mixed rock sources
Slope: 1 to 30 percent
Elevation: 2,000 to 4,000 feet
Mean annual precipitation: 6 to 12 inches
Mean annual air temperature: 59 to 70 degrees F
Frost-free period: 180 to 280 days

Classification: Loamy-skeletal, mixed, superactive, thermic Typic Haplodurids

Typical Pedon

A—0 to 1 inch; yellowish brown (10YR 5/4) gravelly sandy loam, dark yellowish brown (10YR 4/4) moist; weak moderately thick platy structure; soft, very friable, nonsticky and nonplastic; few fine roots; few very fine interstitial pores; 20 percent gravel; strongly effervescent; slightly alkaline (ph 7.8); abrupt smooth boundary.

Bw—1 to 16 inches; brown (7.5YR 5/4) gravelly sandy loam, brown (7.5YR 4/4) moist; weak fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; common fine roots; common fine interstitial pores; 30 percent gravel; violently effervescent, 11 percent calcium carbonate equivalent; slightly alkaline (pH 7.8); abrupt irregular boundary.

Bk—16 to 26 inches; pinkish white (7.5YR 8/2) extremely gravelly sandy loam, pinkish gray (7.5YR 7/2) moist; weak fine subangular blocky structure; hard, firm, nonsticky and nonplastic; few fine roots; few fine interstitial pores; 70 percent gravel; calcium carbonate is disseminated throughout; violently effervescent, 16 percent calcium carbonate equivalent; slightly alkaline (pH 7.8); abrupt wavy boundary.

Bkqm—26 inches; indurated duripan.

Type location: In an area of Skelon family-Greyeagle family-Detrital complex, 3 to 30 percent slopes; about 3,000 feet south and 50 feet east of the northwest corner of sec. 7, T. 24 N., R. 20 W.

Range in Characteristics

Use of the "Skelon family" reference term is a convention to reduce name length and implies no specific use of a soil series, reduced mapping intensity, or range of properties beyond that which is described in the map unit description and database. Use, management, and interpretations are not affected.

Depth to duripan: 20 to 40 inches

Control section
Percent clay: 3 to 18 percent
Rock fragments: average 35 to 70 percent

A horizon
Value: 5 or 6 dry, 3 or 4 moist
Chroma: 3 or 4, dry or moist

Bw horizon
Value: 5 or 6 dry, 3 or 4 moist
Chroma: 3 or 4, dry or moist
Texture: fine sandy loam, coarse sandy loam, sandy loam

Bkqm horizon
Indurated duripan with a continuous laminar cap.

Storybook Series

Depth class: very deep
Drainage class: well drained
Permeability: moderate
Landform: fan terraces
Parent material: alluvium derived from granite
Slope: 1 to 3 percent
Elevation: 2,300 to 2,900 feet
Mean annual precipitation: 6 to 9 inches
Mean annual air temperature: 62 to 68 degrees F
Frost-free period: 230 to 280 days
Classification: Loamy-skeletal, mixed, superactive; calcareous, thermic Typic Torriorthents

Typical Pedon

A—0 to 2 inches; yellowish brown (10YR 5/4) very gravelly sandy loam, dark yellowish brown (10YR 3/4) moist; weak fine granular structure; soft, very friable, nonsticky and nonplastic; many very fine roots, many very fine interstitial pores; 40 percent gravel; slightly effervescent; moderately alkaline (pH 8.2); abrupt smooth boundary.

C—2 to 25 inches; brown (7.5YR 5/4) very gravelly sandy loam, brown (7.5YR 4/4) moist; massive, slightly hard, very friable, nonsticky and nonplastic; few very fine and fine roots; many very fine and fine tubular pores; 40 percent gravel; strongly effervescent; moderately alkaline (pH 8.2); abrupt smooth boundary.

2Bknb1— 25 to 35 inches; strong brown (7.5YR 5/6) gravelly sandy loam, brown (7.5YR 4/4) moist; weak very fine subangular blocky structure; hard, very friable, nonsticky and slightly plastic; few very fine roots; common very fine tubular pores; 30 percent gravel, strongly effervescent; strongly alkaline (pH 8.6); abrupt smooth boundary.

2Bknb2—35 to 60 inches; light brown (7.5YR 6/4) very gravelly sandy loam, brown (7.5YR 4/4) moist; moderate very fine subangular blocky structure; very hard, friable, slightly sticky and slightly plastic; 45 percent gravel; strongly effervescent; strongly alkaline (pH 8.6).

Type location: In an area of Storybook very gravelly sandy loam, 35 degrees, 49 minutes, 9 seconds north latitude and 114 degrees, 28 minutes, 3 seconds west longitude; about 1,100 feet north and 500 feet east of the southwest corner of sec. 5, T. 27 N., R. 19 W.

Range in Characteristics

Control section
Percent clay: 5 to 18 percent
Rock fragments: average 35 to 60 percent

A horizon
Value: 5 to 7 dry, 3 to 5 moist
Chroma: 3 or 4, dry or moist

2Bknb horizons
Value: 5 to 7 dry, 4 or 5 moist
Texture: sandy loam, coarse sandy loam
Effervescence: strongly effervescent or violently effervescent
Reaction: moderately alkaline or strongly alkaline

Stronghold family

Depth class: very deep
Drainage class: well drained
Permeability: moderately rapid
Landform: fan terraces
Parent material: alluvium derived from igneous and metamorphic rock
Slope: 2 to 15 percent
Elevation: 3,500 to 4,500 feet
Mean annual precipitation: 9 to 12 inches
Mean annual air temperature: 59 to 64 degrees F
Frost-free period: 170 to 230 days
Classification: Coarse-loamy, mixed, superactive, thermic Ustic Haplocalcids

Typical Pedon

A—0 to 2 inches; yellowish brown (10YR 5/4) gravelly sandy loam, brown (10YR 4/3) moist; weak medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; few very fine roots; few very fine irregular pores; 15 percent gravel, 3 percent cobble; noneffervescent; moderately alkaline (pH 8.2); abrupt smooth boundary.

AB—2 to 7 inches; light yellowish brown (10YR 6/4) sandy loam, dark yellowish brown (10YR 4/4) moist; moderate medium and coarse subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and fine and few medium roots; common very fine irregular pores; 5 percent gravel, 5 percent cobble; very slightly effervescent; moderately alkaline (pH 8.0); gradual wavy boundary.

Bkn1—7 to 31 inches; very pale brown (10YR 7/3) sandy loam, yellowish brown (10YR 5/4) moist; massive; hard, friable, slightly sticky and slightly plastic; common very fine and few fine, medium and coarse roots; common very fine irregular pores; common very coarse calcium carbonate masses; common thick calcium carbonate coatings on rock fragments; 25 percent calcium carbonate equivalent; 3 percent gravel, 3 percent cobble; violently effervescent; strongly alkaline (pH 8.6); clear smooth boundary.

Bkn2—31 to 44 inches; light yellowish brown (10YR 6/4) sandy loam, dark yellowish brown (10YR 4/4) moist; moderate coarse and very coarse angular blocky structure; extremely hard, extremely firm, slightly sticky and slightly plastic; few very fine and fine roots; common very fine tubular pores; many very fine calcium carbonate filaments; common calcium carbonate coatings on faces of peds; strongly effervescent; strongly alkaline (pH 8.6); abrupt smooth boundary.

Bkn3—44 to 60 inches; very pale brown (10YR 7/4) fine sandy loam, dark yellowish brown (10YR 4/4) moist; moderate coarse angular blocky structure; extremely hard, extremely firm, slightly sticky and nonplastic; few very fine through coarse roots in the upper part; common very fine tubular pores; many very fine calcium carbonate filaments; common calcium carbonate coatings on faces of peds; strongly effervescent; strongly alkaline (pH 8.6).

Type location: In an area of Stronghold-McAllister families complex, 2 to 15 percent slopes; 35 degrees, 10 minutes, 0.6 seconds north latitude; 113 degrees, 43 minutes, 11.09 seconds west longitude.

Range in Characteristics

Use of the "Stronghold family" reference term is a convention to reduce name length and implies no specific use of a soil series, reduced mapping intensity, or range of properties beyond that which is described in the map unit description and database. Use, management, and interpretations are not affected.

Rock fragments: less than 35 percent in the particle-size control section
Clay content: 10 to 18 percent in the particle-size control section

A horizon
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 3 or 4 dry, 4 to 6 moist
Reaction: slightly to moderately alkaline

Bkn horizons
Hue: 10YR, 7.5YR
Value: 5 to 8 dry, 4 to 7 moist
Chroma: 2 to 4 dry, 3 or 4 moist
Texture: coarse sandy loam, sandy loam, fine sandy loam, loam

Calcium carbonate equivalent: 15 to 35 percent
Reaction: moderately to strongly alkaline

Strych Series

Depth class: very deep
Drainage class: well drained
Permeability: moderately rapid
Landform: fan terraces
Parent material: alluvium derived from limestone
Slope: 4 to 20 percent
Elevation: 4,300 to 4,800 feet
Mean annual precipitation: 10 to 14 inches
Mean annual air temperature: 52 to 55 degrees F
Frost-free period: 150 to 165 days
Classification: Loamy-skeletal, mixed, superactive, mesic Ustic Haplocalcids

Typical Pedon

A—0 to 2 inches; brown (10YR 5/3) very gravelly sandy loam, brown (10YR 4/3) moist; weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; many fine tubular pores; 50 percent gravel, 5 percent cobble; violently effervescent, 17 percent calcium carbonate equivalent; moderately alkaline (pH 7.9); abrupt smooth boundary.

Bw—2 to 7 inches; brown (10YR 5/3) extremely gravelly loam, brown (10YR 4/3) moist; weak fine subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; many fine roots; many fine tubular pores; 60 percent gravel, 5 percent cobble; violently effervescent, 18 percent calcium carbonate equivalent; moderately alkaline (pH 7.9); abrupt smooth boundary.

Bk1—7 to 27 inches; brown (10YR 5/3) very gravelly sandy loam, brown (10YR 4/3) moist; weak fine subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; many fine roots; many fine tubular pores; 45 percent gravel, 10 percent cobble; violently effervescent, 23 percent calcium carbonate equivalent; moderately alkaline (pH 8.0); abrupt smooth boundary.

Bk2—27 to 60 inches; pale brown (10YR 6/3) extremely gravelly sandy loam, brown (10YR 5/3) moist; massive; hard, friable, nonsticky and nonplastic; few very fine roots; common very fine tubular pores; 60 percent gravel, 10 percent cobble; common calcium carbonate coatings on rock fragments; strongly effervescent, 12 percent calcium carbonate equivalent; moderately alkaline (pH 8.4).

Type location: In an area of Pastern-Strych complex, 4 to 20 percent slopes; about 1,800 feet south and 1,750 feet east of the northwest corner of sec. 33, T. 24 N., R. 12 W.

Range in Characteristics

Depth to calcic horizon: ranges from 5 to 39 inches
Particle-size control section: 35 to 75 percent rock fragments
Clay content: ranges from 8 to 18 percent

A horizon
Hue: 7.5YR, 10YR
Value: 4 or 5 dry, 3 or 4 moist
Chroma: 3 or 4, dry or moist

Bw horizon
Hue: 5YR to 10YR
Value: 4 to 6, dry or moist
Chroma: 3 to 6, dry or moist

Bk horizons
Value: 4 to 8, dry or moist
Chroma: 3 or 4, dry or moist
Calcium carbonates equivalent: 8 to 40 percent

Sunrock Series

Depth class: very shallow and shallow to bedrock (lithic)
Drainage class: somewhat excessively drained
Permeability: moderately rapid
Landform: hills, mountains, and mesas
Parent material: colluvium derived from volcanic rock
Slope: 3 to 65 percent
Elevation: 650 to 3,000 feet
Mean annual precipitation: 3 to 6 inches
Mean annual air temperature: 70 to 78 degrees F
Frost-free period: 280 to 320 days
Classification: Loamy-skeletal, mixed, superactive, calcareous, hyperthermic Lithic Torriorthents

Typical Pedon

A—0 to 2 inches; brown (10YR 5/3) extremely gravelly sandy loam, brown (10YR 4/3) moist; weak fine granular structure; loose, nonsticky and nonplastic; many very fine roots; many very fine irregular pores; 65 percent gravel and 5 percent cobble; slightly alkaline (pH 7.8); abrupt smooth boundary.

Bw—2 to 5 inches; brown (10YR 5/3) very gravelly sandy loam, brown (10YR 4/3) moist; weak fine subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; many very fine roots; many very fine irregular pores; 50 percent gravel with few thin calcium carbonate coatings; strongly effervescent; moderately alkaline (pH 8.0); abrupt smooth boundary.

2R—5 inches; thin layer of weathered andesite over hard andesite; common calcium carbonate coatings on rock surfaces and in fractures.

Type location: In an area of Sunrock extremely gravelly sandy loam, 15 to 35 percent slopes; about 850 feet north and 1,800 feet west of the southeast corner of sec. 32, T. 28 N., R. 22 W.

Range in Characteristics

Reaction: slightly or moderately alkaline
Rock fragments: 35 to 65 percent
Clay content: 5 to 20 percent; averages less than 18 percent

A horizon
Hue: 7.5YR, 10YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 3 or 4, dry or moist
Texture: loamy sand, sandy loam, fine sandy loam
Calcium carbonate equivalent: 1 to 15 percent

Bw horizon
Hue: 7.5YR, 10YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 3 or 4, dry or moist
Texture: fine sandy loam, sandy loam, loam
Calcium carbonate equivalent: 1 to 15 percent
Reaction: slightly to moderately alkaline

Sunstroke Series

Depth class: moderately deep to duripan
Drainage class: somewhat excessively drained
Permeability: moderately rapid
Landform: fan terraces
Parent material: alluvium derived from mixed rock sources
Slope: 3 to 35 percent
Elevation: 1,600 to 2,700 feet
Mean annual precipitation: 9 to 12 inches
Mean annual air temperature: 57 to 70 degrees F
Frost-free period: 200 to 280 days
Classification: Loamy-skeletal, mixed, superactive, thermic Typic Haplodurids

Typical Pedon

A—0 to 2 inches; light brown (7.5YR 6/4) extremely gravelly sandy loam, yellowish brown (10YR 5/4) moist; moderate fine granular structure; soft, very friable, nonsticky and nonplastic; few very fine and fine roots; few very fine irregular pores; 65 percent gravel; strongly effervescent; slightly alkaline (pH 7.8); abrupt smooth boundary.

Bw—2 to 18 inches; light brown (7.5YR 6/4) extremely gravelly sandy loam, brown (7.5YR 4/4) moist; massive; soft, very friable, nonsticky and nonplastic; common very fine roots; few very fine irregular pores; 70 percent gravel; strongly effervescent; moderately alkaline (pH 8.0); clear wavy boundary.

Bk—18 to 24 inches; yellowish brown (10YR 5/4) extremely gravelly sandy loam, dark yellowish brown (10YR 4/4) moist; massive; soft, very friable, nonsticky and nonplastic; common very fine and fine roots; few very fine irregular pores; 70 percent gravel; strongly effervescent, few calcium carbonate threads on ped faces; moderately alkaline (pH 8.0); abrupt wavy boundary.

Bkqm—24 to 45 inches; pinkish white (7.5YR 8/2) indurated hardpan.

2R—45 inches; fanglomerate.

Type location: In an area of Deluge-Gotchell-Sunstroke complex, 3 to 7 percent slopes; about 1,800 feet east and 1,000 feet south of the northwest corner of sec. 31, T. 30 N., R. 17 W.

Range in Characteristics

Rock fragments: 35 to 75 percent
Organic matter content: less than 1 percent in the surface layer
Reaction: slightly or moderately alkaline
Calcium carbonate: slightly to violently effervescent
Clay content: 5 to 18 percent

A horizon
Hue: 7.5YR, 10YR
Value: 5 or 6, dry or moist
Chroma: 3 or 4, dry or moist

Bw and Bk horizons
Hue: 7.5YR, 10YR
Value: 5 or 6, dry or moist
Chroma: 3 or 4, dry or moist

Superstition family

Depth class: very deep
Drainage class: excessively drained
Permeability: moderately rapid
Landform: fan terraces
Parent material: alluvium derived from mixed rock sources
Slope: 35 to 75 percent
Elevation: 650 to 800 feet
Mean annual precipitation: 3 to 6 inches
Mean annual air temperature: 70 to 78 degrees F

Frost-free period: 280 to 320 days
Classification: Sandy, mixed, hyperthermic Typic Haplocalcids

Typical Pedon

A—0 to 1 inches; brown (7.5YR 5/4) very gravelly loamy sand, brown (7.5YR 4/4) moist; moderate thin platy structure; soft, very friable, nonsticky and nonplastic; common fine roots; many fine vesicular pores; 45 percent gravel, 10 percent cobbles; strongly effervescent; slightly alkaline (pH 7.8); abrupt wavy boundary.

C—1 to 7 inches; brown (7.5YR 5/4) very gravelly loamy sand, brown (7.5YR 4/4) moist; weak medium subangular blocky structure; soft, very friable, nonsticky and nonplastic; common fine roots; common fine tubular pores; 45 percent gravel, 10 percent cobbles; strongly effervescent; few fine soft calcium carbonate masses; moderately alkaline (pH 8.0); clear wavy boundary.

Ck—7 to 23 inches; light brown (7.5YR 6/4) gravelly loamy sand, brown (7.5YR 5/4) moist; massive parting to single grain, loose, loose, nonsticky and nonplastic; common very fine roots; many fine irregular pores; 20 percent gravel, 10 percent cobbles; violently effervescent; common fine soft calcium carbonate masses; moderately alkaline (pH 8.0); abrupt smooth boundary.

2C"—18 to 34 inches; light brown (7.5YR 6/4) fine sand, brown (7.5YR 5/4) moist; single grain; loose, loose, nonsticky and nonplastic; few very fine roots; common fine irregular pores; moderately alkaline (pH 8.2); clear wavy boundary.

Type location: In an area of Superstition family-Carrwash complex, 35 to 75 percent slopes; about 1,200 feet south and 2,400 feet west of the northeast corner of sec. 7, T. 26 N., R. 22. W.

Range in Characteristics

Use of the "Superstition family" reference term is a convention to reduce name length and implies no specific use of a soil series, reduced mapping intensity, or range of properties beyond that which is described in the map unit description and database. Use, management, and interpretations are not affected.

Effervescence: strong to violent
Rock fragments: less than 35 percent in the particle-size control section

A horizon
Hue: 7.5YR, 10YR
Value: 5 or 6 dry

Ck horizon
Hue: 7.5YR, 10YR
Value: 5 to 7 dry
Calcium carbonate equivalent: 10 to 20 percent
Texture: loamy sand and sand

Taine Series

Depth class: very shallow and shallow to bedrock (lithic)
Drainage class: well drained
Permeability: slow
Landform: hills and mountains
Parent material: alluvium derived from basalt
Slope: 12 to 35 percent
Elevation: 4,000 to 5,200 feet
Mean annual precipitation: 10 to 14 inches
Mean annual air temperature: 52 to 55 degrees F
Frost-free period: 200 to 230 days
Classification: Clayey-skeletal, smectitic, mesic Lithic Ustic Haplargids

Typical Pedon

A—0 to 2 inches; brown (7.5YR 4/3) extremely cobbly loam, dark reddish brown (5YR 3/3) moist; common fine granular structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine roots; common very fine tubular pores; noneffervescent; 45 percent cobble, 20 percent gravel, and 1 percent stone; slightly alkaline (pH 7.6); abrupt wavy boundary.

Bt1—2 to 5 inches; dark reddish brown (5YR 3/3) extremely cobbly clay loam, dark reddish brown (5YR 3/4) moist; strong fine subangular blocky structure; hard, firm, slightly sticky and slightly plastic; many very fine roots; common very fine tubular pores; few faint clay films on ped faces and lining pores; noneffervescent; 45 percent cobble, 20 percent gravel, and 1 percent stone; slightly alkaline (pH 7.6); clear wavy boundary.

Bt2—5 to 11 inches; reddish brown (5YR 4/3) extremely cobbly clay, reddish brown (5YR 4/3) moist; strong fine prismatic structure parting to strong fine subangular blocky; hard, firm, sticky and plastic; common very fine roots; common very fine tubular pores; common faint clay films on ped faces and lining pores; noneffervescent; 45 percent cobble, 20 percent gravel, and 1 percent stone; slightly alkaline (pH 7.8); abrupt smooth boundary.

Bt3—11 to 15 inches; reddish brown (5YR 4/3) extremely flaggy clay, reddish brown (5YR 4/3) moist; strong fine subangular blocky structure; hard, firm, sticky and plastic; few very fine roots; common very

fine tubular pores; common faint clay skins on ped faces and lining pores; noneffervescent; 90 percent flagstone and cobble; slightly alkaline (pH 7.8); abrupt smooth boundary.

2R—15 inches; basalt.

Type location: In an area of Taine extremely cobbly loam, 12 to 35 percent slopes; about 2,500 feet west and 2,100 feet north of the southeast corner of sec. 3 T. 23 N., R. 12 W.

Range in Characteristics

Rock fragments: 35 to 75 percent in the particle-size control section as basalt cobble, flagstone, gravel, and stone
Clay content: averages 35 to 45 percent in the particle-size control section
Depth to bedrock: 4 to 20 inches
Reaction: slightly or moderately alkaline

A horizon
Hue: 5YR, 7.5YR
Value: 3 to 5 dry, 3 or 4 moist
Chroma: 3 or 4, dry or moist

Bt horizon
Hue: 5YR, 7.5YR
Value: 3 to 5 dry, 3 or 4 moist
Chroma: 3 or 4, dry or moist
Texture: clay loam, clay

Taine Taxadjunct

Depth class: shallow to bedrock (lithic)
Drainage class: well drained
Permeability: moderately slow
Landform: hills and mountains
Parent material: colluvium derived from volcanic rock over residuum weathered from volcanic rock
Slope: 15 to 65 percent
Elevation: 3,750 to 4,950 feet
Mean annual precipitation: 12 to 16 inches
Mean annual air temperature: 59 to 64 degrees F
Frost-free period: 170 to 230 days
Classification: Clayey-skeletal, smectitic, thermic Lithic Ustic Haplargids

Typical Pedon

A—0 to 2 inches; dark grayish brown (10YR 4/2) extremely gravelly sandy clay loam, very dark grayish brown (10YR 3/2) moist; moderate fine subangular blocky structure; soft, very friable, moderately sticky and moderately plastic; common very fine and fine roots; common very fine irregular pores; 50 percent gravel, 20 percent cobble; noneffervescent; neutral (pH 6.8); abrupt smooth boundary.

Bt1—2 to 7 inches; brown (7.5YR 4/2) very cobbly clay loam, dark brown (7.5YR 3/2) moist; moderate fine and medium subangular blocky structure; slightly hard, friable, very sticky and moderately plastic; common fine and medium roots; common fine tubular pores; common faint clay films on faces of peds; 20 percent gravel, 20 percent cobble; noneffervescent; neutral (pH 6.6); abrupt wavy boundary.

Bt2—7 to 19 inches; reddish brown (5YR 4/3) extremely stony clay loam, dark reddish brown (5YR 3/3) moist; moderate medium subangular blocky structure; hard, very firm, very sticky and very plastic; common very fine through coarse roots; few fine tubular pores; common thin through distinct clay films lining pores and on faces of peds; 5 percent gravel, 40 percent cobble, and 30 percent stone; noneffervescent; slightly alkaline (pH 7.4); abrupt irregular boundary.

2R—19 inches; fractured basalt bedrock with soil material and calcium carbonate in the fractures.

Type location: In an area of Pantak family-Taine-Terino family complex, 15 to 65 percent slopes; 35 degrees, 14 minutes, 8 seconds north latitude; 113 degrees, 46 minutes, 42 seconds west longitude.

Range in Characteristics

This component is a taxadjunct to the Taine Series. This component is in a thermic temperature regime.

Rock fragments: 35 to 65 percent in the particle-size control section
Reaction: neutral to moderately alkaline

A horizon
Hue: 7.5YR, 10YR
Value: 3 to 5, dry or moist
Chroma: 2 to 4 dry
Effervescence: none

Bt horizons
Hue: 5YR, 7.5YR, 10YR
Value: 3 or 4, dry or moist
Chroma: 2 to 4 dry, 2 or 3 moist
Texture: clay loam, clay
Clay content: 35 to 50 percent in the particle-size control section
Effervescence: none to slight

Some pedons have Btk horizons with significant accumulations of calcium carbonate in the lower part of the profile that do not meet the thickness criteria for a calcic horizon.

Terino family

Depth class: shallow to petrocalcic
Drainage class: well drained
Permeability: moderately slow
Landform: hills and mountains
Parent material: colluvium derived from volcanic rock
Slope: 15 to 65 percent
Elevation: 3,750 to 4,950 feet
Mean annual precipitation: 12 to 16 inches
Mean annual air temperature: 59 to 64 degrees F
Frost-free period: 170 to 230 days
Classification: Loamy-skeletal, mixed, superactive, thermic, shallow Ustalfic Petrocalcids

Typical Pedon

A—0 to 2 inches; brown (10YR 5/3) extremely cobbly loam, dark grayish brown (10YR 4/2) moist; weak medium platy structure parting to moderate very fine and fine subangular blocky; soft, very friable, nonsticky and slightly plastic; common very fine and few fine roots; common very fine and few fine tubular pores; 40 percent gravel, 20 percent cobble; slightly effervescent; slightly alkaline (pH 7.4); clear wavy boundary.

Bt1—2 to 10 inches; brown (10YR 5/3) very cobbly loam, dark brown (7.5YR 3/3) moist; weak medium and fine subangular blocky structure parting to moderate very fine and fine subangular blocky; slightly hard, friable, slightly sticky and moderately plastic; many very fine, common fine and few medium roots; common very fine and few fine tubular pores; many faint clay films bridging sand grains, few faint clay films lining pores and on faces of peds; 30 percent gravel, 20 percent cobble; noneffervescent; neutral (pH 7.2); clear smooth boundary.

Bt2—10 to 17 inches; brown (7.5YR 4/3) extremely cobbly clay loam, dark brown (7.5YR 3/3) moist; weak medium prismatic structure parting to strong fine subangular blocky; slightly hard, friable, slightly sticky and moderately plastic; common very fine and fine and few medium and coarse roots; common very fine and few fine tubular pores; common faint clay films lining pores and on faces of peds; 35 percent gravel, 25 percent cobble; noneffervescent; slightly alkaline (pH 7.4); abrupt wavy boundary.

2Bknm—17 to 23 inches; very pale brown (10YR 8/2) fractured petrocalcic horizon; fractures are greater than 10 centimeters apart; common very fine and fine and few medium roots in fractures; 56 percent calcium carbonate equivalent; 20 percent gravel, 15 percent cobble; rock fragments are fractured, displaced bedrock; violently effervescent; strongly alkaline (pH 8.6); abrupt irregular boundary.

2Cr—23 to 35 inches; highly fractured, slightly to moderately weathered basalt bedrock with moderately to strongly calcium carbonate cemented matrix filling the fractures; matrix is violently effervescent and strongly alkaline (pH 8.6); abrupt irregular boundary.

2R—35 inches; fractured basalt bedrock with soil material that is moderately to strongly calcium carbonate cemented in the fractures.

Type location: In an area of Pantak family-Taine-Terino family complex, 15 to 65 percent slopes; 35 degrees, 13 minutes, 48.7 seconds north latitude; 113 degrees, 44 minutes, 26.2 seconds west longitude.

Range in Characteristics

Use of the "Terino family" reference term is a convention to reduce name length and implies no specific use of a soil series, reduced mapping intensity, or range of properties beyond that which is described in the map unit description and database. Use, management, and interpretations are not affected.

Rock fragments: 35 to 65 percent in the particle-size control section
Reaction: neutral to moderately alkaline

A horizon
Value: 3 or 5 dry, 3 or 4 moist
Chroma: 2 or 3 dry
Effervescence: none to slight

Bt horizons
Hue: 7.5YR, 10YR
Value: 3 to 5 dry, 3 or 4 moist
Chroma: 2 or 3 moist
Texture: loam, clay loam
Clay content: 20 to 35 percent in the particle-size control section
Effervescence: none to strong

Bkm horizon
Value: 7 or 8 moist
Chroma: 1 to 3, dry or moist
Calcium carbonate equivalent: 45 to 60 percent

Thimble Series

Depth class: shallow to bedrock (lithic)
Drainage class: well drained
Permeability: slow

Landform: hills
Parent material: alluvium derived from basalt
Slope: 35 to 65 percent
Elevation: 5,000 to 5,600 feet
Mean annual precipitation: 14 to 18 inches
Mean annual air temperature: 48 to 52 degrees F
Frost-free period: 135 to 150 days
Classification: Clayey-skeletal, smectitic, mesic Lithic Argiustolls

Typical Pedon

A—0 to 2 inches; very dark grayish brown (10YR 3/2) extremely cobbly clay loam, very dark gray (10YR 3/1) moist; moderate very fine granular structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine roots; many very fine irregular pores; 30 percent gravel, 20 percent cobble, and 10 percent stone; noneffervescent; slightly alkaline (pH 7.6); abrupt smooth boundary.

Bt—2 to 10 inches; dark brown (10YR 3/3) extremely cobbly clay, very dark grayish brown (10YR 3/2) moist; moderate very fine subangular blocky structure; hard, firm, very sticky and very plastic; common very fine roots; common very fine tubular pores; few thin clay films on faces of peds and lining pores; 30 percent gravel, 20 percent cobble, and 10 percent stone; noneffervescent; slightly alkaline (pH 7.6); abrupt smooth boundary.

2Cr—10 to 15 inches; weathered basalt bedrock

2R—15 inches; unweathered basalt bedrock

Type location: In an area of Thimble-Rock outcrop complex, 35 to 65 percent slopes; about 930 feet south and 30 feet east of the northwest corner of sec. 22, T. 21 N., R. 11 W.

Range in Characteristics

Rock fragments: 35 to 65 percent cobble, gravel, and stones
Carbonates: 1 to 10 percent calcium carbonate equivalent
Clay content: 35 to 60 percent in the control section

A horizon
Hue: 7.5YR, 5YR
Value: 3 to 5 dry, 3 or 4 moist
Chroma: 2 to 4, dry or moist

Bt horizon
Hue: 7.5YR, 5YR
Value: 3 to 6 dry, 3 to 5 moist
Chroma: 2 to 4, dry or moist
Texture: clay loam, clay

Thunderbird Series

Depth class: moderately deep to bedrock (lithic)
Drainage class: well drained
Permeability: slow
Landform: hills
Parent material: alluvium derived from mixed rock sources
Slope: 3 to 20 percent
Elevation: 4,900 to 5,400 feet
Mean annual precipitation: 14 to 18 inches
Mean annual air temperature: 50 to 55 degrees F
Frost-free period: 120 to 160 days
Classification: Fine, smectitic, mesic Aridic Argiustolls

Typical Pedon

A—0 to 2 inches; dark brown (10YR 3/3) very cobbly silty clay, very dark grayish brown (10YR 3/2) moist; strong very fine granular structure; slightly hard, very friable, nonsticky and nonplastic; common very fine roots; many very fine irregular pores; 10 percent gravel, 20 percent cobble, 5 percent stone; noneffervescent; neutral (pH 6.8); abrupt smooth boundary.

Bt—2 to 23 inches; dark brown (10YR 3/3) silty clay, very dark grayish brown (10YR 3/2) moist; moist; strong medium prismatic structure parting to strong medium subangular blocky; very hard, very firm, very sticky and very plastic; common very fine, fine, and medium roots; 5 percent gravel; common moderately thick clay films lining pores and on faces of peds; noneffervescent; neutral (pH 7.0); abrupt wavy boundary.

R—23 inches; basalt bedrock.

Type location: In an area of Luzena-Thunderbird complex, 3 to 35 percent slopes; about 800 feet north and 2,250 feet east of the southwest corner of sec. 12, T. 21 N., R. 11 W.

Range in Characteristics

Depth to bedrock: 20 to 40 inches
Clay content: 35 to 60 percent in the particle-size control section

Bt horizon
Texture: silty clay, clay

Tombstone family

Depth class: very deep or deep to a petrocalcic horizon if present

Drainage class: well drained
Permeability: moderate or moderately rapid
Landform: fan terraces
Parent material: alluvium and colluvium derived from igneous and metamorphic rock
Slope: 1 to 30 percent
Elevation: 3,400 to 4,600 feet
Mean annual precipitation: 12 to 16 inches
Mean annual air temperature: 59 to 64 degrees F
Frost-free period: 170 to 230 days
Classification: Loamy-skeletal, mixed, superactive, thermic Ustic Haplocalcids

Typical Pedon

A1—0 to 2 inches; brown (10YR 5/3) gravelly sandy loam, moderate medium platy structure parting to weak very fine subangular blocky; soft, very friable, nonsticky and nonplastic; common very fine and fine roots; few very fine irregular pores; 20 percent gravel, 5 percent cobble, and 2 percent stone; slightly effervescent; moderately alkaline (pH 8.0); abrupt wavy boundary.

A2—2 to 16 inches; brown (10YR 5/3) very cobbly sandy loam, brown (10YR 4/3) moist; weak very fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; common very fine and fine roots; few very fine and fine tubular pores; 20 percent gravel, 20 percent cobble, and 10 percent stone; strongly effervescent; moderately alkaline (pH 8.2); abrupt wavy boundary.

Bk1—16 to 46 inches; light gray (10YR 7/2) very cobbly sandy loam, brown (10YR 5/3) moist; weak fine subangular blocky structure; slightly hard, friable, nonsticky and nonplastic; few very fine through medium roots; common very fine and few fine tubular pores; many coarse soft calcium carbonate masses; weakly cemented by calcium carbonate; 16 percent calcium carbonate equivalent; 20 percent gravel, 20 percent cobble, and 10 percent stone; violently effervescent; moderately alkaline (pH 8.4); abrupt wavy boundary.

Bk2—46 to 60 inches; brown (10YR 5/3) extremely cobbly sandy loam, dark grayish brown (10YR 4/2) moist; weak very fine and fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; few very fine and fine roots; few very fine and fine tubular pores; few fine soft calcium carbonate filaments and seams; 25 percent gravel, 25 percent cobble, and 10 percent stones; strongly effervescent; moderately alkaline (pH 8.4).

Type location: In an area of Tombstone-Caralampi-Nolam families complex, 2 to 30 percent slopes; 35 degrees, 10 minutes, 41.6 seconds north latitude; 113 degrees, 49 minutes, 43.2 seconds west longitude.

Range in Characteristics

Use of the "Tombstone family" reference term is a convention to reduce name length and implies no specific use of a soil series, reduced mapping intensity, or range of properties beyond that which is described in the map unit description and database. Use, management, and interpretations are not affected.

Rock fragments: 35 to 65 percent in the particle-size control section
Clay content: 10 to 18 percent in the particle-size control section

A horizon
Value: 4 or 5 dry, 3 or 4 moist

Bk horizons
Hue: 7.5YR, 10YR
Value: 5 to 8 dry, 5 to 7 moist
Chroma: 2 to 6, dry or moist
Texture: sandy loam, loam
Calcium carbonate equivalent: 15 to 35 percent
Effervescence: strong to violent

Topawa family

Depth class: very deep
Drainage class: well drained
Permeability: moderately slow
Landform: fan terraces
Parent material: alluvium and/or colluvium derived from mixed rock sources
Slope: 15 to 50 percent
Elevation: 3,000 to 4,200 feet
Mean annual precipitation: 9 to 12 inches
Mean annual air temperature: 57 to 64 degrees F
Frost-free period: 200 to 230 days
Classification: Loamy-skeletal, mixed, superactive, thermic Typic Haplargids

Typical Pedon

A—0 to 3 inches; brown (7.5YR 5/3) very gravelly loamy sand, dark brown (7.5YR 3/3) moist; weak fine granular structure; slightly hard, very friable, nonsticky and nonplastic; many very fine roots; many very fine irregular pores; 15 percent cobbles and 35 percent gravel; noneffervescent; neutral (pH 7.0); abrupt wavy boundary.

Bt1—3 to 18 inches; reddish brown (5YR 5/4) very gravelly sandy clay loam, dark reddish brown (5YR 3/4) moist; moderate medium subangular blocky structure; hard, friable, sticky and plastic; many very fine roots; many very fine tubular pores; common moderately

thick clay films on faces of peds; 50 percent gravel; noneffervescent; neutral (pH 7.2); clear wavy boundary.

Bt2—18 to 50 inches; strong brown (7.5YR 5/6) very gravelly sandy loam, strong brown (7.5YR 4/6) moist; weak medium subangular blocky structure; slightly hard, friable, nonsticky and nonplastic; few fine roots; few fine tubular pores; few thin clay films bridging sand grains; 45 percent gravel; noneffervescent; neutral (pH 7.2); abrupt wavy boundary.

C—50 to 58 inches; reddish yellow (7.5YR 6/6) gravelly loamy sand, strong brown (7.5YR 5/6) moist; single grain; slightly hard, friable, nonsticky and nonplastic; few fine roots; few fine irregular pores; 25 percent gravel; noneffervescent; neutral (pH 7.2); abrupt wavy boundary.

2Bkb—58 to 60 inches; pink (7.5YR 8/3) gravelly loam, pink (7.5YR 7/3) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; few fine tubular pores; 30 percent gravel; violently effervescent; many large soft lime masses; moderately alkaline (pH 8.4).

Type location: In an area of Nickel-Topawa-Eba families complex, 10 to 50 percent slopes; about 1,000 feet east and 1,400 feet south of the northwest corner of sec. 1, T. 18 N., R. 14 W.

Range in Characteristics

Use of the "Topawa family" reference term is a convention to reduce name length and implies no specific use of a soil series, reduced mapping intensity, or range of properties beyond that which is described in the map unit description and database. Use, management, and interpretations are not affected.

Effervescence: none to violent
Organic matter content: greater than 1 percent

A horizon
Hue: 7.5YR, 10YR
Value: 4 or 5 dry, 3 or 4 moist
Rock fragments: 35 to 60 percent gravel and cobble

Bt horizons
Chroma: 3 to 6, dry or moist
Texture: loam, clay loam, sandy clay loam, sandy loam
Rock fragments: 35 to 60 percent gravel

C horizon
Chroma: 4 to 6, dry or moist
Texture: loamy sand, sand

2Bkb horizon
Texture: sandy loam, loam
Calcium carbonate equivalent: 10 to 30 percent

Not present in all pedons.

Torriorthents

Depth class: very shallow to very deep
Drainage class: well drained
Permeability: very slow to very rapid
Landform: fan terraces, hills, and mountains
Parent material: alluvium, colluvium and/or residuum derived from mixed rock sources
Slope: 3 to 75 percent
Elevation: 1,180 to 5,000 feet
Mean annual precipitation: 3 to 14 inches
Mean annual air temperature: 57 to 78 degrees F
Frost-free period: 180 to 325 days
Classification: Torriorthents

Typical Pedon

A—0 to 2 inches; brown (10YR 5/3) very gravelly sandy loam, brown (10YR 4/3) moist; weak fine granular structure; soft, very friable, nonsticky and nonplastic; common very fine roots; common very fine tubular pores; 50 percent gravel; strongly effervescent; moderately alkaline (pH 8.2); abrupt smooth boundary.

C—2 to 60 inches; brown (10YR 5/3) stratified very gravelly sandy loam to coarse sand, brown (10YR 4/3) moist; massive; soft to extremely hard, very friable and friable; nonsticky and nonplastic; few very fine roots; common very fine interstitial pores; violently effervescent; moderately alkaline (pH 8.4).

Type location: In an area of Torriorthents, 25 to 75 percent slopes; about 2,800 feet north and 1,700 feet west of the southwest corner of sec. 12, T. 31 N., R. 17 W.

Range in Characteristics

Soils in this landscape position are highly variable with respect to depth, texture, color and/or chemical properties. Therefore physical and chemical properties of specific horizons are not given and interpretations such as erodibility are not determined. The taxonomic unit description is representative of what may be found in this landscape position.

Tovar Taxadjunct

Depth class: moderately deep to bedrock (lithic)
Drainage class: well drained
Permeability: very slow
Landform: hills

Parent material: alluvium derived from limestone over residuum weathered from limestone
Slope: 6 to 25 percent
Elevation: 5,000 to 5,800 feet
Mean annual precipitation: 14 to 18 inches
Mean annual air temperature: 48 to 52 degrees F
Frost-free period: 135 to 150 days
Classification: Fine, smectitic, mesic Vertic Haplustalfs

Typical Pedon

A1—0 to 1 inch; yellowish brown (10YR 5/4) extremely gravelly fine sandy loam, dark brown (7.5YR 3/3) moist; weak fine granular structure; soft, very friable, nonsticky and nonplastic; few very fine roots; many very fine tubular pores; 60 percent gravel, 10 percent cobble, and 5 percent stone; noneffervescent; slightly alkaline (pH 7.6); abrupt smooth boundary.

A2—1 to 3 inches; yellowish brown (10YR 5/4) very gravelly loam, dark brown (7.5YR 3/3) moist; weak thin platy structure; soft, very friable, slightly sticky and slightly plastic; few fine roots; many very fine tubular pores; 40 percent gravel, 10 percent cobble, and 5 percent stone; noneffervescent; slightly alkaline (pH 7.6); abrupt smooth boundary.

Bt1—3 to 11 inches; reddish brown (5YR 4/3) clay loam, dark reddish brown (5YR 3/3) moist; strong fine angular blocky structure; hard, firm, very sticky and very plastic; few fine roots; common very fine tubular pores; many thin clay films on faces of peds and lining pores; 5 percent gravel and 5 percent stone; noneffervescent; slightly alkaline (pH 7.6); clear wavy boundary.

Bt2—11 to 21 inches; reddish brown (5YR 4/4) clay, reddish brown (5YR 4/4) moist; strong medium prismatic structure parting to strong fine angular blocky; hard, firm, very sticky and very plastic; few fine roots; few very fine tubular pores; many thin clay films on faces of peds and lining pores; many pressure faces; 5 percent gravel and 5 percent stone; noneffervescent; slightly alkaline (pH 7.6); abrupt smooth boundary.

Bt3—21 to 27 inches; yellowish red (5YR 4/6) cobbly clay, yellowish red (5YR 4/6) moist; strong medium prismatic structure parting to strong medium angular blocky with 60 percent as wedge-shaped aggregates; hard, firm, very sticky and very plastic; few very fine roots; few very fine tubular pores; many thin clay films on faces of peds and lining pores; many pressure faces; 10 percent cobble, 5 percent stone; noneffervescent; moderately alkaline (pH 8.2); abrupt wavy boundary.

Btk—27 to 35 inches; reddish brown (5YR 4/4) cobble clay, reddish brown (5YR 4/4) moist; moderate fine subangular blocky structure; hard, firm, very sticky and very plastic; few fine roots; few very fine tubular pores; many thin clay films on faces of peds and lining pores; many pressure faces; 10 percent cobble, 5 percent stone; few fine soft calcium carbonate masses; slightly effervescent, 4 percent calcium carbonate equivalent; moderately alkaline (pH 8.2); abrupt wavy boundary.

2R—35 inches; limestone bedrock.

Type location: In an area of Dye-Tovar-Rock outcrop complex, 6 to 25 percent slopes; about 2,530 feet north and 2,220 feet east of the southwest corner of sec. 9, T. 26 N., R. 14 W.

Range in Characteristics

These soils are a taxadjunct to the Tovar Series. These soils do not have a 15 percent clay increase (absolute) within one inch of the upper boundary of the Bt horizon.

Depth to bedrock: 20 to 40 inches
Rock fragments: Averages less than 15 percent gravel, channers, flagstones, and stones.

A horizons
Hue: 7.5YR, 10YR
Value: 3 to 6 dry, 3 or 4 moist
Chroma: 3 to 6, dry or moist

Bt horizon
Value: 3 to 6 dry, 3 or 4 moist
Chroma: 3 to 6, dry or moist
Texture: clay loam, clay (35 to 55 percent clay)
Reaction: neutral to moderately alkaline

Tricon family

Depth class: moderately deep to petrocalcic
Drainage class: well drained
Permeability: slow
Landform: fan terraces
Parent material: alluvium derived from limestone
Slope: 2 to 10 percent
Elevation: 5,000 to 5,500 feet
Mean annual precipitation: 14 to 18 inches
Mean annual air temperature: 48 to 52 degrees F
Frost-free period: 135 to 150 days
Classification: Fine, mixed, superactive, mesic Petrocalcic Paleustolls

Typical Pedon

A—0 to 2 inches; brown (10YR 4/3) loam, dark brown (10YR 3/3) moist; weak fine granular structure; slightly hard, very friable, nonsticky and nonplastic;

many very fine roots; many very fine irregular pores; 10 percent gravel; noneffervescent; slightly alkaline (pH 7.8); abrupt smooth boundary.

Bt1—2 to 8 inches; dark brown (7.5YR 3/2) clay, dark brown (7.5YR 3/2) moist, strong fine subangular blocky structure; hard, firm, very sticky and very plastic; many very fine roots; common very fine tubular pores; 10 percent gravel; few thin clay films on the faces of peds and lining pores; noneffervescent; slightly alkaline (pH 7.8); clear wavy boundary.

Bt2—8 to 16 inches; brown (7.5YR 4/3) clay, brown (7.5YR 4/3) moist, strong fine subangular blocky structure; hard, firm, very sticky and very plastic; many very fine roots; common very fine tubular pores; 10 percent gravel; few thin clay films on the faces of peds and lining pores; noneffervescent; slightly alkaline (pH 7.8); clear wavy boundary.

Btk—16 to 21 inches; brown (7.5YR 4/3) clay, brown (7.5YR 4/3) moist, strong fine subangular blocky structure; hard, firm, very sticky and very plastic; many very fine roots; common very fine tubular pores; 10 percent gravel; common calcium carbonate coatings on the undersides of rock fragments; few thin clay films on the faces of peds and lining pores; slightly effervescent; moderately alkaline (pH 8.0); abrupt smooth boundary.

Bkm—21 inches, strongly cemented petrocalcic horizon.

Type location: In an area of Pidineen-Tricon families complex, 2 to 10 percent slopes; about 130 feet south and 1,200 feet east of the northwest corner of sec. 5, T. 22 N., R. 11 W.

Range in Characteristics

Use of the "Tricon family" reference term is a convention to reduce name length and implies no specific use of a soil series, reduced mapping intensity, or range of properties beyond that which is described in the map unit description and database. Use, management, and interpretations are not affected.

Depth to a petrocalcic horizon: 20 to 40 inches

A horizon
Hue: 10YR, 7.5YR
Value: 3 to 5, dry or moist
Chroma: 2 or 3, dry or moist

Bt horizons:
Hue: 10YR, 7.5YR
Value: 3 or 5 dry, 3 or 4 moist
Chroma: 2 to 4, dry or moist
Texture: clay, silty clay

Bkm horizon
Strongly cemented to indurated

Truxton Series

Depth class: very deep
Drainage class: well drained
Permeability: moderate
Landform: flood plains
Parent material: alluvium derived from mixed rock sources
Slope: 1 to 3 percent
Elevation: 4,200 to 4,700 feet
Mean annual precipitation: 10 to 14 inches
Mean annual air temperature: 55 to 57 degrees F
Frost-free period: 180 to 200 days
Classification: Coarse-silty, mixed, superactive, calcareous, mesic Ustic Torriorthents

Typical Pedon

A1—0 to 2 inches; yellowish brown (10YR 5/4) loam, brown (10YR 4/3) moist; weak thin platy structure parting to weak fine granular; soft, very friable, nonsticky and nonplastic; few very fine roots; many fine tubular pores; strongly effervescent; moderately alkaline (pH 8.0); abrupt smooth boundary.

A2—2 to 5 inches; yellowish brown (10YR 5/4) silt loam, brown (10YR 4/3) moist; weak thin platy structure parting to weak fine granular; slightly hard, very friable, nonsticky and nonplastic; many very fine roots; many very fine tubular pores; strongly effervescent; moderately alkaline (pH 8.0); abrupt smooth boundary.

Bw1—5 to 34 inches; yellowish brown (10YR 5/4) silt loam, brown (10YR 4/3) moist; weak medium prismatic structure parting to weak medium subangular blocky; slightly hard, very friable, slightly sticky and nonplastic; many very fine roots; many very fine tubular pores; violently effervescent; moderately alkaline (pH 8.0); clear wavy boundary.

Bw2—34 to 60 inches; brown (10YR 5/3) silt loam, brown (10YR 4/3) moist; weak fine prismatic structure parting to weak fine subangular blocky; slightly hard, very friable, slightly sticky and nonplastic; common fine roots; many very fine tubular pores; violently effervescent; slightly alkaline (pH 7.8).

Type location: In an area of Truxton complex, 1 to 3 percent slopes; about 2,000 feet north and 100 feet west of the southeast corner of sec. 19, T. 24 N., R. 11 W.

Range in Characteristics

Rock fragments: 0 to 5 percent gravel
Reaction: slightly to moderately alkaline
Clay content: less than 18 percent
Value: 5 or 6, dry
Chroma: 3 or 4, dry or moist

Tumarion Series

Depth class: very shallow and shallow to duripan
Drainage class: somewhat excessively drained
Permeability: moderately rapid
Landform: mesas
Parent material: alluvium derived from volcanic rock
Slope: 2 to 40 percent
Elevation: 2,200 to 5,000 feet
Mean annual precipitation: 9 to 12 inches
Mean annual air temperature: 59 to 70 degrees F
Frost-free period: 200 to 250 days
Classification: Loamy-skeletal, mixed, superactive, thermic, shallow Typic Haplodurids

Typical Pedon

A—0 to 3 inches; light yellowish brown (10YR 6/4) very cobbly loam, dark yellowish brown (10YR 4/4) moist; moderate thin platy structure; slightly hard, very friable, slightly sticky and slightly plastic; few fine roots; many fine irregular pores; 30 percent cobble and 25 percent gravel; strongly effervescent; moderately alkaline (pH 8.0); clear wavy boundary.

Bk—3 to 10 inches; light brown (7.5YR 6/4) extremely gravelly loam, brown (7.5YR 4/4) moist; massive; slightly hard, very friable, slightly sticky and slightly plastic; few fine roots; many fine irregular pores; 75 percent gravel; many moderately thick calcium carbonate coatings on undersides of gravel; violently effervescent; moderately alkaline (pH 8.0); abrupt wavy boundary.

2Bkqm—10 to 12 inches; indurated silica-calcium carbonate cemented duripan with laminar cap; abrupt wavy boundary.

3R—12 inches; basalt bedrock.

Type location: In an area of Tumarion very cobbly loam, 2 to 15 percent slopes; about 300 feet north and 2,350 feet west of the southeast corner of sec. 33, T. 14 N., R. 17 W.

Range in Characteristics

Rock fragments: 35 to 80 percent gravel in the particle-size control section.

A horizon
Hue: 7.5YR, 10YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 2 to 4, dry or moist

B horizon
Hue: 7.5YR, 10YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 2 to 4, dry or moist
Texture: fine sandy loam, sandy loam, loam (15 to 25 percent clay)

Tyro Series

Depth class: very shallow and shallow to duripan
Drainage class: somewhat excessively drained
Permeability: moderately rapid
Landform: pediments
Parent material: alluvium derived from igneous and metamorphic rock
Slope: 3 to 35 percent
Elevation: 900 to 3,000 feet
Mean annual precipitation: 3 to 6 inches
Mean annual air temperature: 70 to 78 degrees F
Frost-free period: 280 to 320 days
Classification: Loamy-skeletal, mixed, superactive, hyperthermic, shallow Typic Haplodurids

Typical Pedon

A—0 to 1 inch; pale brown (10YR 6/3) very gravelly sandy loam, brown (10YR 4/3) moist; moderate fine granular structure; soft, very friable, nonsticky and nonplastic; common very fine roots; common very fine irregular pores; 50 percent gravel; strongly effervescent; moderately alkaline (pH 8.0); abrupt smooth boundary.

Bk1—1 to 6 inches; light brown (7.5YR 6/4) very gravelly sandy loam, brown (7.5YR 5/4) moist; weak fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; common fine roots; common very fine irregular pores; few distinct calcium carbonate coatings as pendants on undersides of rock fragments; 50 percent gravel; violently effervescent; moderately alkaline (pH 8.0); abrupt smooth boundary.

Bk2—6 to 9 inches; pinkish white (7.5YR 8/2) very gravelly coarse sandy loam, light brown (7.5YR 6/4) moist; common fine subangular blocky structure; extremely hard, firm, nonsticky and nonplastic; many prominent medium and large calcium carbonate nodules, common prominent calcium carbonate coatings on gravel; 35 percent gravel; violently effervescent; moderately alkaline (pH 8.0); abrupt smooth boundary.

2Bkqm—9 to 14 inches; indurated duripan with laminar cap and troweled surface.

3R—14 inches; conglomerate.

Type location: In an area of Tyro very gravelly sandy loam, 3 to 30 percent slopes; about 1,650 feet south and 1,300 feet west of the northwest corner of sec. 7, T. 24 N., R. 21 W.

Range in Characteristics

Reaction: slightly or moderately alkaline
Rock fragments: 35 to 80 percent gravel, cobble, and/or hardpan fragments
Organic matter content: less than 1 percent
Clay content: averages less than 18 percent clay in the particle-size control section
Calcium carbonate equivalent: 15 to 35 percent in the calcic horizon

A horizon
Hue: 7.5YR, 10YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 3 or 4, dry or moist
Calcium carbonate equivalent: 5 to 15 percent

Bk horizon
Hue: 7.5YR, 10YR
Value: 5 to 8 dry, 4 to 6 moist
Chroma: 2 to 4, dry or moist
Calcium carbonate equivalent: 15 to 40 percent

A Bw horizon may be present in some pedons.

Ustalfic Petrocalcids

Depth class: shallow to moderately deep to a petrocalcic
Drainage class: well drained
Permeability: moderately slow
Landform: fan terraces
Parent material: alluvium derived from igneous and metamorphic rock
Slope: 1 to 15 percent
Elevation: 3,800 to 4,450 feet
Mean annual precipitation: 12 to 16 inches
Mean annual air temperature: 59 to 64 degrees F
Frost-free period: 170 to 230 days
Classification: Ustalfic Petrocalcids

Typical Pedon

A—0 to 1 inch; brown (7.5YR 5/4) very gravelly sandy clay loam, dark brown (7.5YR 3/3) moist; moderate medium platy structure; soft, very friable, nonsticky and nonplastic; common very fine roots; common very fine vesicular pores; 30 percent gravel, 5 percent cobble; noneffervescent; slightly acid (pH 6.4); abrupt wavy boundary.

Bt1—1 to 4 inches; dark brown (7.5YR 3/3) very stony sandy clay loam, very dark brown (7.5YR 2.5/3) moist; moderate medium subangular blocky structure; hard, friable, slightly sticky and moderately plastic; few very fine and fine roots; common very fine and few fine tubular pores; common faint clay films on faces of peds; 25 percent gravel, 5 percent cobble, and 10 percent stone; noneffervescent; neutral (pH 7.0); abrupt wavy boundary.

Bt2—4 to 13 inches; dark reddish brown (5YR 3/4) very gravelly clay loam, dark reddish brown (5YR 3/4) moist; weak coarse prismatic structure parting to moderate medium subangular blocky; hard, firm, moderately sticky and moderately plastic; few very fine through coarse roots; common very fine and few fine tubular pores; many faint clay films on faces of peds, few distinct clay films lining pores; 25 percent gravel, 5 percent cobble, and 5 percent stone; noneffervescent, neutral (pH 7.2); clear smooth boundary.

Bt3—13 to 26 inches; reddish brown (5YR 4/4) very gravelly sandy clay loam, dark reddish brown (5YR 3/4) moist; weak medium subangular blocky structure parting to moderate fine subangular blocky; hard, friable, slightly sticky and slightly plastic; few very fine through coarse roots; common very fine and fine tubular pores; many faint clay films bridging sand grains, few faint clay films on faces of peds; 30 percent gravel, 5 percent cobble, and 5 percent stones; 40 percent of the total rock fragment volume is moderately to highly weathered; noneffervescent; slightly alkaline (pH 7.4); gradual smooth boundary.

Bt4—26 to 38 inches; yellowish red (5YR 4/6) very gravelly coarse sandy loam, reddish brown (5YR 4/4) moist; weak medium and fine subangular blocky; slightly hard, friable, slightly sticky and nonplastic; few very fine through coarse roots; medium and coarse roots are concentrated in the lower part of the horizon; common very fine and few fine tubular pores; many faint clay films bridging sand grains; 40 percent gravel and 5 percent cobble; 40 percent of the total rock fragment volume is moderately to highly weathered; noneffervescent, neutral (pH 6.8); abrupt wavy boundary.

2Bkm—38 to 60 inches; pink (7.5YR 8/3) moderately to strongly cemented petrocalcic with intermittently continuous strongly cemented to indurated laminar calcium carbonate caps; 55 percent calcium carbonate equivalent; 40 percent gravel and 5 percent cobble; violently effervescent; moderately alkaline (pH 8.2).

Type location: In an area of Nolam family-Ustalfic Petrocalcids-Caralampi family complex, 1 to 15 percent slopes; 35 degrees, 15 minutes, 57 minutes north longitude; 113 degrees, 34 minutes, 31 seconds west longitude.

Range in Characteristics

Rock fragments: 35 to 65 percent in the particle-size control section

A horizon
Hue: 7.5YR, 10YR
Value: 5 or 6 dry, 3 or 4 moist
Chroma: 3 or 4, dry or moist
Reaction: moderately acid to neutral

Bt horizons
Hue: 5YR, 7.5YR
Value: 3 to 5 dry, 3 or 4 moist
Chroma: 3 to 6, dry or moist
Reaction: slightly acid to slightly alkaline
Texture: sandy clay loam, clay loam, sandy loam, coarse sandy loam
Clay content: 18 to 35 percent in the particle-size control section

Bkm horizon
Value: 7 or 8, dry or moist
Chroma: 2 or 3, dry or moist
Calcium carbonate equivalent: 20 to 60 percent
Other features: petrocalic horizons are moderately cemented to indurated, often with a laterally continuous strongly cemented to indurated laminar calcium carbonate cap.

Some pedons have Btq and/or Btkq horizons that do not meet the silica cementation criteria for a duripan.

Some pedons have Btk horizons.

Ustorthents

Depth class: shallow to very deep to bedrock (lithic)
Drainage class: well drained
Permeability: moderately rapid
Landform: plateaus
Parent material: alluvium and/or colluvium derived from mixed rock sources
Slope: 35 to 90 percent
Elevation: 6,000 to 6,800 feet
Mean annual precipitation: 14 to 18 inches
Mean annual air temperature: 46 to 54 degrees F
Frost-free period: 120 to 160 days
Classification: Ustorthents

Typical Pedon

A—0 to 1 inch; light brown (7.5YR 6/4) extremely flaggy fine sandy loam, brown (7.5YR 5/4) moist; weak moderately thick platy structure; soft, very friable, nonsticky and nonplastic; common very fine and many fine roots; common fine interstitial pores; 40 percent channers and 50 percent flags; violently effervescent; moderately alkaline (pH 8.0); abrupt smooth boundary.

C1—1 to 5 inches; light brown (7.5YR 6/4) channery fine sandy loam, brown (7.5RY 5/4) moist; massive, soft, very friable, nonsticky and nonplastic; common very fine and many fine roots; common fine interstitial pores; 20 percent channers; violently effervescent; moderately alkaline (pH 8.2); abrupt smooth boundary.

C2—5 to 18 inches; light brown (7.5YR 6/4) flaggy fine sandy loam, brown (7.5YR 5/4) moist; massive; soft, very friable, nonsticky and nonplastic; common fine and few medium roots; common fine interstitial pores; 20 percent flags; violently effervescent, moderately alkaline; abrupt smooth boundary.

R—18 inches; sandstone bedrock.

Type location: In an area of Ustorthents-Rock outcrop complex, 35 to 90 percent slopes; about 1,500 feet north and 800 feet west of the southeast corner of sec. 34, T. 30 N., R. 8 W.

Range in Characteristics

Highly variable in depth to bedrock, soil texture, and color, but loamy-skeletal or sandy-skeletal in most areas.

Valena Series

Depth class: shallow to bedrock (lithic)
Drainage class: well drained
Permeability: moderate
Landform: plateaus
Parent material: alluvium derived from igneous and metamorphic rock
Slope: 1 to 35 percent
Elevation: 4,800 to 5,500 feet
Mean annual precipitation: 14 to 18 inches
Mean annual air temperature: 48 to 55 degrees F
Frost-free period: 135 to 165 days
Classification: Loamy, mixed, superactive, mesic Lithic Haplustalfs

Typical Pedon

A—0 to 2 inches; brown (10YR 5/3) sandy loam, dark brown (10YR 3/3) moist; weak fine granular structure; soft, very friable, nonsticky and nonplastic; common very fine roots; many very fine tubular pores; 5 percent gravel; noneffervescent; slightly alkaline (pH 7.6); abrupt smooth boundary.

Bw—2 to 7 inches; dark yellowish brown (10YR 4/4) sandy loam, dark yellowish brown (10YR 3/4) moist; moderate fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic;

few very fine roots; many very fine tubular pores; 5 percent gravel; noneffervescent; slightly alkaline (pH 7.8); clear wavy boundary.

2Bt—7 to 12 inches; yellowish red (5YR 4/6) sandy clay loam, reddish brown (5YR 4/4) moist; strong fine subangular blocky structure; hard, firm, sticky and plastic; few very fine roots; many very fine tubular pores; common faint clay films on ped faces and lining pores; 5 percent gravel; noneffervescent; moderately alkaline (pH 8.0); abrupt smooth boundary.

2R—12 inches; granite bedrock.

Type location: In an area of Valena-Carri complex, 3 to 15 percent slopes; about 2,000 feet west and 1,700 feet north of the southeast corner of sec. 12, T. 23 N., R. 13 W.

Range in Characteristics

Rock fragments: Less than 25 percent
Reaction: slightly or moderately alkaline
Effervescence: noneffervescent or slightly effervescent

A horizon
Hue: 7.5YR, 10YR
Value: 4 or 5 dry, 3 or 4 moist
Chroma: 3 or 4, dry or moist

2Bt horizon
Hue: 7.5YR, 5YR
Value: 4 or 5 dry, 3 or 4 moist
Chroma: 4 or 6, dry or moist
Texture: loam, sandy loam, sandy clay loam
Clay content: 18 to 35 percent clay

Vekol family

Depth class: very deep
Drainage class: well drained
Permeability: slow
Landform: fan terraces
Parent material: alluvium derived from mixed rock sources
Slope: 1 to 7 percent
Elevation: 2,000 to 5,000 feet
Mean annual precipitation: 9 to 16 inches
Mean annual air temperature: 59 to 70 degrees F
Frost-free period: 200 to 275 days
Classification: Fine, mixed, superactive, thermic Typic Haplargids

Typical Pedon

A—0 to 4 inches; strong brown (7.5YR 5/6) gravelly loamy sand, brown (7.5YR 4/4) moist; weak fine granular structure; slightly hard, very friable, nonsticky and nonplastic; many fine roots; many fine irregular pores; 25 percent gravel; noneffervescent; neutral (pH 7.2); abrupt smooth boundary.

BA—4 to 10 inches; brown (7.5YR 5/4) gravelly sandy loam, brown (7.5YR 4/4) moist; moderate fine granular structure; slightly hard, very friable, nonsticky and nonplastic; many fine roots; many very fine irregular and few fine tubular pores; 15 percent gravel and 5 percent cobble; noneffervescent; slightly alkaline (pH 7.4); clear wavy boundary.

2Bt1—10 to 26 inches; brown (7.5YR 5/4) gravelly sandy clay, reddish brown (5YR 4/4) moist; moderate medium subangular blocky structure; hard, firm, sticky and plastic; many very fine roots; common fine tubular pores; common distinct clay films on faces of peds; 25 percent gravel; noneffervescent; slightly alkaline (pH 7.6); clear wavy boundary.

2Bt2—26 to 40 inches; reddish brown (5YR 5/4) gravelly sandy clay loam, reddish brown (5YR 4/4) moist; weak medium subangular blocky structure; slightly hard, friable, sticky and plastic; few very fine roots; few fine tubular pores; few thin clay films in pores; 20 percent gravel; noneffervescent; slightly alkaline (pH 7.6); abrupt wavy boundary.

3Bk—40 to 60 inches; strong brown (7.5YR 5/6) very gravelly sand, strong brown (7.5YR 4/6) moist; single grain; loose, loose, nonsticky and nonplastic; few fine roots; few fine tubular pores; 40 percent gravel; few large soft lime masses; violently effervescent; moderately alkaline (pH 8.4).

Type location: In an area of Vekol family gravelly loamy sand, 2 to 7 percent slopes; about 1,200 feet west and 1,100 feet south of the northwest corner section 27, T. 18 N., R. 13 W.

Range in Characteristics

Use of the "Vekol family" reference term is a convention to reduce name length and implies no specific use of a soil series, reduced mapping intensity, or range of properties beyond that which is described in the map unit description and database. Use, management, and interpretations are not affected.

Depth to a calcic horizon: 35 to 40 inches

A horizon
Hue: 7.5YR, 10YR
Value: 5 or 6 dry, 3 or 4 moist
Chroma: 4 to 6 dry, 3 or 4 moist

BA horizon
Not present in all pedons.

2Bt horizons

Hue: 5YR, 7.5YR
Value: 4 or 5 dry, 3 or 4 moist
Chroma: 4 or 6, dry or moist
Texture: sandy clay, sandy clay loam
Rock fragments: less than 30 percent gravel

3Bk horizon
Not present in all pedons.

Calcium carbonate equivalent: 1 to 20 percent

Vock Series

Depth class: shallow to bedrock (paralithic)
Drainage class: somewhat excessively drained
Permeability: moderately rapid
Landform: hills and mountains
Parent material: alluvium and colluvium derived from mixed rock sources
Slope: 30 to 65 percent
Elevation: 5,000 to 6,800 feet
Mean annual precipitation: 12 to 16 inches
Mean annual air temperature: 52 to 55 degrees F
Frost-free period: 150 to 165 days
Classification: Loamy-skeletal, mixed, superactive, mesic, shallow Ustic Haplocambids

Typical Pedon

A—0 to 6 inches; brown (10YR 4/3) very cobbly sandy loam, dark brown (10YR 3/3) moist; weak fine granular structure; slightly hard, very friable, nonsticky and nonplastic; common very fine roots; common very fine tubular pores; 20 percent gravel, 20 percent cobble, 10 percent stone; slightly alkaline (pH 7.8); abrupt smooth boundary.

Bw1—6 to 11 inches; dark yellowish brown (10YR 4/4) gravelly sandy loam, dark yellowish brown (10YR 4/4) moist; weak fine subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; common very fine roots matted around rock fragments; common very fine tubular pores; 25 percent gravel; slightly alkaline (pH 7.8); abrupt smooth boundary.

Bw2—11 to 16 inches; dark yellowish brown (10YR 4/4) very gravelly sandy loam, brown (10YR 4/3) moist; weak fine subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; common fine roots; common very fine tubular pores; 45 percent gravel; moderately alkaline (pH 8.0); abrupt smooth boundary.

2Cr—16 to 60 inches; granite bedrock.

Type location: In an area of Vock-Elements-Rock outcrop complex, 30 to 65 percent slopes; about 1,600 feet east and 1,300 feet south of the northwest corner of sec. 23, T. 24 N., R. 18 W.

Range in Characteristics

Rock fragments: average 35 to 65 percent in the particle-size control section
Reaction: slightly or moderately alkaline
Organic matter: 1 to 2 percent
Clay content: ranges from 5 to 20 percent; averages less than 18 percent

A and B horizons
Hue: 10YR, 7.5YR
Value: 4 or 5 dry, 3 or 4 moist
Chroma: 3 or 4, dry or moist

White House Series

Depth class: very deep
Drainage class: well drained
Permeability: slow
Landform: fan terraces
Parent material: alluvium derived from mixed rock sources
Slope: 2 to 15 percent
Elevation: 4,200 to 4,800 feet
Mean annual precipitation: 12 to 16 inches
Mean annual air temperature: 57 to 61 degrees F
Frost-free period: 180 to 210 days
Classification: Fine, mixed, superactive, thermic Ustic Haplargids

Typical Pedon

A—0 to 1 inch; brown (7.5YR 5/4) gravelly loamy sand, dark brown (7.5YR 3/4) moist; weak fine granular structure; loose, nonsticky and nonplastic; many fine roots; many fine irregular pores; 30 percent gravel and 2 percent cobbles; noneffervescent; neutral (pH 7.0); abrupt wavy boundary.

BA—1 to 5 inches; reddish brown (5YR 5/4) sandy clay loam, reddish brown (5YR 4/4) moist; weak medium subangular blocky structure; hard, firm, sticky and plastic; many fine roots; many fine tubular pores; 5 percent gravel and 5 percent cobble; noneffervescent; neutral (pH 7.0); clear wavy boundary.

2Bt1—5 to 23 inches; yellowish red (5YR 5/6) sandy clay, yellowish red (5YR 4/6) moist; strong medium prismatic structure; very hard, very firm, very sticky and very plastic; common fine roots; common very fine tubular pores; 10 percent gravel and 2 percent cobbles; many distinct clay films on faces of peds; noneffervescent; neutral (pH 7.2); abrupt wavy boundary.

2Bt2—23 to 42 inches; strong brown (7.5YR 5/6) gravelly sandy clay loam, strong brown (7.5YR 4/6) moist; moderate medium subangular blocky structure; hard, firm, sticky and plastic; common very fine roots;

common very fine tubular pores; 25 percent gravel; common distinct clay films on faces of peds; slightly effervescent; slightly alkaline (pH 7.4); gradual wavy boundary.

2BC—42 to 60 inches; strong brown (7.5YR 5/6) gravelly loamy sand, brown (7.5YR 4/4) moist; single grain; loose, nonsticky and nonplastic; few very fine roots; few fine irregular pores; 30 percent gravel; slightly effervescent; slightly alkaline (pH 7.6).

Type location: In an area of White House gravelly loamy sand, 2 to 15 percent slopes; about 100 feet south and 750 feet west of the northeast corner of sec. 10, T. 20 N., R. 14 W.

Range in Characteristics

Alkalinity: neutral to slightly alkaline

A horizon
Rock fragments: 15 to 35 percent cobbles and gravel

Bt horizons
Texture: sandy clay loam, sandy clay
Rock fragments: 15 to 35 percent

BC horizon
Rock fragments: 15 to 35 percent

White House family

Depth class: very deep
Drainage class: well drained
Permeability: very slow
Landform: fan terraces
Parent material: alluvium derived from mixed rock sources
Slope: 2 to 15 percent
Elevation: 4,200 to 4,800 feet
Mean annual precipitation: 12 to 16 inches
Mean annual air temperature: 57 to 61 degrees F
Frost-free period: 180 to 210 days
Classification: Fine, mixed, superactive, thermic Ustic Haplargids

Typical Pedon

A1—0 to 1 inch; brown (10YR 4/3) very gravelly loamy sand, dark brown (10YR 3/3) moist; weak fine granular structure; soft, very friable, nonsticky and nonplastic; common very fine roots; common very fine irregular pores; 40 percent gravel; noneffervescent; neutral (pH 7.2); abrupt smooth boundary.

A2—1 to 2 inches; brown (10YR 4/3) very gravelly sandy clay loam, moderate fine granular structure; soft, very friable, slightly sticky and nonplastic; few very fine roots; common very fine irregular pores; 40 percent gravel; noneffervescent; neutral (pH 7.2); abrupt smooth boundary.

Bt1—2 to 15 inches; yellowish brown (10YR 5/4) very gravelly sandy clay loam, brown (7.5YR 4/4) moist; strong very fine subangular blocky structure; hard, firm, sticky and plastic; few very fine roots; common very fine tubular pores; common thin clay films on ped faces and in pores; 40 percent gravel; noneffervescent; slightly alkaline (pH 7.4); clear wavy boundary.

Bt2—15 to 21 inches; yellowish brown (10YR 5/4) gravelly clay, brown (7.5YR 4/4) moist; strong very fine subangular blocky structure; very hard, very firm, very sticky and very plastic; few very fine roots; common very fine tubular pores; common thin clay films on ped faces and in pores; 30 percent gravel; noneffervescent; slightly alkaline (pH 7.4); clear wavy boundary.

Bt3—21 to 32 inches; yellowish brown (10YR 5/4) clay, brown (7.5YR 4/4) strong fine subangular blocky structure; very hard, very firm, very sticky and very plastic; few very fine roots; common very fine tubular pores; many thin clay films on ped faces and in pores; 10 percent gravel; noneffervescent; slightly alkaline (pH 7.4); clear wavy boundary .

BC—32 to 43 inches; yellowish brown (10YR 5/4) gravelly sandy clay loam, dark yellowish brown (10YR 4/4) moist; weak fine subangular blocky structure; hard, very firm, slightly sticky and nonplastic; few very fine roots; common very fine tubular pores; few 1/2-inch-wide cylindrical areas with thin clay films on ped faces and in pores; 15 percent gravel; noneffervescent; slightly alkaline (pH 7.6); clear wavy boundary.

C—43 to 60 inches; yellowish brown (10YR 5/4) gravelly loamy sand, brown (10YR 4/3) moist; massive; slightly hard, very firm, nonsticky and nonplastic; few very fine roots; few fine tubular pores; 15 percent gravel; noneffervescent with few areas of slightly effervescent; slightly alkaline (pH 7.6).

Type location: In an area of White House family very gravelly loamy sand, 2 to 15 percent slopes; 35 degrees, 9 minutes, 15 seconds north latitude; 113 degrees, 44 minutes, 37 seconds west longitude.

Range in Characteristics

Use of the "White House family" reference term is a convention to reduce name length and implies no specific use of a soil series, reduced mapping intensity, or range of properties beyond that which is described in the map unit description and database. Use, management, and interpretations are not affected.

Alkalinity: neutral to slightly alkaline

A horizons
Rock fragments: 15 to 60 percent, predominantly gravel

Bt horizons
Rock fragments: 15 to 35 percent, predominantly gravel
Texture: sandy clay loam, clay

Whitehills Series

Depth class: moderately deep to duripan
Drainage class: well drained
Permeability: moderately slow
Landform: fan terraces
Parent material: alluvium derived from mixed volcanic rock
Slope: 1 to 7 percent
Elevation: 2,000 to 4,800 feet
Mean annual precipitation: 9 to 12 inches
Mean annual air temperature: 62 to 68 degrees F
Frost-free period: 180 to 265 days
Classification: Loamy-skeletal, mixed, superactive, thermic Typic Argidurids

Typical Pedon

A—0 to 2 inches; yellowish brown (10YR 5/4) very gravelly loam, dark yellowish brown (10YR 3/4) moist; weak medium platy structure; slightly hard, friable, nonsticky and nonplastic, many very fine roots; many very fine vesicular pores; 40 percent gravel and 5 percent cobble; slightly effervescent; slightly alkaline (pH 7.8); clear wavy boundary.

Btk1—2 to 7 inches; strong brown (7.5YR 5/6) very gravelly loam, brown (7.5YR 4/4) moist; moderate medium subangular blocky structure; hard, friable, slightly sticky and slightly plastic; many very fine roots; common very fine tubular pores; common faint clay films on faces of peds; 35 percent gravel and 5 percent cobble; few fine soft calcium carbonate accumulations; slightly effervescent; 10 percent calcium carbonate equivalent; moderately alkaline (pH 8.0); clear wavy boundary.

Btk2—7 to 19 inches; strong brown (7.5YR 5/6) very gravelly clay loam, strong brown (7.5YR 4/6) moist; strong medium subangular blocky structure; very hard, firm, sticky and plastic; common very fine roots; common very fine tubular pores; strong distinct clay films on faces of peds; 40 percent gravel and 5 percent cobble; common fine soft calcium carbonate accumulations; strongly effervescent; 14 percent calcium carbonate equivalent; moderately alkaline (pH 8.0); abrupt wavy boundary.

Bk—19 to 27 inches; pink (7.5YR 8/4) very gravelly loam, pink (7.5YR 7/4) moist; massive; hard, firm, nonsticky and nonplastic; few very fine roots; few very fine tubular pores; 45 percent gravel and 10 percent cobble with calcium carbonate coating undersides; many coarse soft calcium carbonate accumulations; violently effervescent; 24 percent calcium carbonate equivalent; moderately alkaline (pH 8.4); abrupt wavy boundary.

2Bkqm—27 inches; indurated silica-calcium carbonate-cemented duripan.

Type location: In an area of Whitehills very gravelly loam, 1 to 5 percent slopes; about 1,200 feet east and 1,400 feet south of the northwest corner of sec. 15, T. 20 N., R. 19 W.

Range in Characteristics

Rock fragments: 35 to 70 percent
Organic matter: Less than 1 percent in the surface layer

A horizon
Hue: 7.5YR, 10YR
Value: 5 or 6 dry, 3 or 4 moist
Chroma: 3 or 4, dry or moist

Btk horizons
Hue: 5YR, 7.5YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 3, 4 or 6, dry or moist
Texture: loam, sandy clay loam, clay loam

Bk horizon
Hue: 7.5YR, 10YR
Value: 6, 7 or 8 dry, 4 to 7 moist
Chroma: 3 or 4, dry or moist
Texture: sandy loam, loam

Wikieup Series

Depth class: very shallow and shallow to bedrock
Drainage class: well drained
Permeability: moderately rapid
Landform: pediments and hills
Parent material: alluvium derived from mixed rock sources
Slope: 3 to 30 percent
Elevation: 3,500 to 4,500 feet
Mean annual precipitation: 9 to 12 inches
Mean annual air temperature: 62 to 68 degrees F
Frost-free period: 180 to 250 days

Classification: Loamy-skeletal, mixed, superactive, nonacid, thermic, shallow Typic Torriorthents

Typical Pedon

A—0 to 3 inches; brown (10YR 5/3) extremely gravelly loam, dark brown (10YR 3/3) moist; weak fine granular structure; soft, very friable, nonsticky and nonplastic; common very fine roots; common very fine tubular pores; 65 percent gravel; noneffervescent; neutral (pH 7.0); clear wavy boundary.

C—3 to 7 inches; grayish brown (10YR 5/2) very gravelly loam, very dark grayish brown (10YR 3/2) moist; massive; loose, very friable, nonsticky and nonplastic; common very fine roots; common very fine tubular pores; 40 percent gravel; noneffervescent; neutral (pH 7.2); abrupt wavy boundary.

2Cr—7 to 9 inches; weathered granite bedrock; abrupt irregular boundary.

2R—9 inches; granite bedrock.

Type location: In an area of Mutang-Wikieup-Rock outcrop complex, 3 to 30 percent slopes, about 2,500 feet north and 1,200 feet east of the southeast corner of sec. 19, T. 25 N., R. 18 W.

Range in Characteristics

Depth to paralithic contact: 4 to 20 inches
Depth to unweathered bedrock: 6 to 20 inches
Reaction: neutral to moderately alkaline

A horizon
Hue: 10YR, 7.5YR
Value: 5 or 6 dry, 3 to 5 moist
Chroma: 3 or 4, dry or moist

C horizon
Hue: 10YR, 7.5YR
Value: 5 or 6 dry, 3 to 5 moist
Chroma: 2 to 4, dry or moist
Texture: loam, sandy loam, coarse sandy loam
Rock fragments: 35 to 60 percent, dominantly gravel

Wodomont Series

Depth class: very shallow and shallow to bedrock (lithic)
Drainage class: well drained
Permeability: moderate
Landform: hills and plateaus
Parent material: colluvium derived from limestone
Slope: 5 to 45 percent
Elevation: 4,600 to 5,700 feet
Mean annual precipitation: 14 to 18 inches
Mean annual air temperature: 48 to 55 degrees F
Frost-free period: 135 to 160 days

Classification: Loamy-skeletal, mixed, superactive, mesic Lithic Calciustepts

Typical Pedon

A—0 to 2 inches; brown (7.5YR 5/3) extremely cobbly sandy loam, brown (7.5YR 4/3) moist; weak fine granular structure; soft, very friable, nonsticky and nonplastic; common very fine roots; common very fine irregular pores; 30 percent gravel, 30 percent cobble, and 5 percent stone; strongly effervescent; moderately alkaline (pH 8.2); abrupt wavy boundary.

Bw—2 to 8 inches; brown (7.5YR 5/4) extremely gravelly sandy loam, brown (7.5YR 4/4) moist; moderate medium subangular blocky structure; slightly hard, friable, slightly sticky and plastic; many very fine roots; common very fine tubular pores; 55 percent gravel and 20 percent cobble; violently effervescent; moderately alkaline (pH 8.4); abrupt wavy boundary.

Bk—8 to 18 inches; light brown (7.5YR 6/4) extremely gravelly sandy loam, brown (7.5YR 4/4) moist; weak fine subangular blocky structure; slightly hard, friable, slightly sticky and plastic; few very fine roots; few very fine tubular pores; 60 percent gravel and 15 percent cobble; common medium soft calcium carbonate masses on peds and common thin coatings and pendants on rock fragments; violently effervescent; moderately alkaline (pH 8.4); abrupt wavy boundary.

R—18 inches; limestone bedrock.

Type location: In an area of Wodomont-Metuck-Rock outcrop complex, 25 to 45 percent slopes; about 1,700 feet north and 1,200 feet east of the southwest corner of sec. 24, T. 22 N., R. 11 W.

Range in Characteristics

Calcium carbonate equivalent: ranges from 15 to 40 percent, averages 20 to 40 percent
Rock fragments: average 35 to 60 percent in the control section

A horizon
Hue: 5YR, 7.5YR
Value: 3 to 5, dry or moist
Chroma: 3 or 4, dry or moist

Bk horizon
Value: 4 to 6 dry, 3 or 4 moist
Chroma: 3 or 4, dry or moist
Texture: silt loam, fine sandy loam, very fine sandy loam, loam, sandy loam
Reaction: slightly to moderately alkaline
Rock fragments: 35 to 70 percent

Some pedons have a Bw horizon above the Bk horizon.

Yahana family

Depth class: very deep
Drainage class: well drained
Permeability: slow
Landform: flood plains
Parent material: alluvium derived from mixed rock sources
Slope: 1 to 3 percent
Elevation: 600 to 1,000 feet
Mean annual precipitation: 3 to 6 inches
Mean annual air temperature: 70 to 74 degrees F
Frost-free period: 250 to 325 days
Classification: Fine-silty, mixed, superactive, hyperthermic Typic Haplosalids

Typical Pedon

Anz—0 to 4 inches; brown (7.5YR 5/2) silty clay loam, brown (7.5YR 4/2) moist; moderate thick platy structure; hard, firm, sticky and plastic; few fine roots; common fine tubular pores; thin salt crust and few fine salt crystals; strongly effervescent; very strongly alkaline (pH 9.2); abrupt wavy boundary.

Bnz1—4 to 8 inches; brown (7.5YR 5/2) silty clay, brown (7.5YR 4/2) moist; weak fine subangular blocky structure; very hard, very firm, very sticky and very plastic; few fine roots; few fine interstitial pores; many fine salt crystals; many fine iron stains; violently effervescent; very strongly alkaline (pH 9.4); abrupt wavy boundary.

Bnz2—8 to 29 inches; light brown (7.5YR 6/3) silt loam, brown (7.5YR 5/3) moist; weak fine subangular blocky structure; slightly hard, friable, nonsticky and plastic; few fine roots; few fine interstitial pores; few fine salt crystals; many fine iron stains; violently effervescent; very strongly alkaline (pH 9.2); abrupt wavy boundary.

Bnz3—29 to 41 inches; light brown (7.5YR 6/4) silty clay, brown (7.5YR 5/4) moist; massive; very hard, very firm, very sticky and very plastic; few very fine roots; few fine interstitial pores; common fine salt crystals; many fine iron stains; violently effervescent; very strongly alkaline (pH 9.4); abrupt smooth boundary.

Bnz4—41 to 56 inches; light brown (7.5YR 6/4) silty clay loam, brown (7.5YR 5/4) moist; massive; hard, firm, sticky and plastic; few very fine roots; few fine interstitial pores; common fine salt crystals; many fine iron stains; strongly effervescent; very strongly alkaline (pH 9.2); abrupt wavy boundary.

C—56 to 60 inches; pink (7.5YR 7/4) fine sand, light brown (7.5YR 6/4) moist; massive; loose, nonsticky and nonplastic; common medium interstitial pores; slightly effervescent; moderately alkaline (pH 8.2).

Type location: In an area of Yahana family silty clay loam, 1 to 3 percent slopes; about 2,650 feet east and 200 feet north of the southwest corner of sec. 2, T. 18 N., R. 22 W.

Range in Characteristics

Use of the "Yahana family" reference term is a convention to reduce name length and implies no specific use of a soil series, reduced mapping intensity, or range of properties beyond that which is described in the map unit description and database. Use, management, and interpretations are not affected.

Depth to a salic horizon: 0 to 10 inches
Salinity (ECe): up to 80 dS/m
Sodicity (SAR): up to 400

Bnz horizons
Texture: stratified silt loam, silty clay, silty clay loam, very fine sandy loam

C horizon
Texture: fine sand, sand

Yurm Family

Depth class: shallow to petrocalcic
Drainage class: well drained
Permeability: moderately rapid
Landform: fan terraces
Parent material: alluvium derived from mixed rock sources
Slope: 4 to 12 percent
Elevation: 3,600 to 4,000 feet
Mean annual precipitation: 9 to 12 inches
Mean annual air temperature: 59 to 64 degrees F
Frost-free period: 200 to 230 days
Classification: Loamy-skeletal, mixed, superactive, thermic, shallow Calcic Petrocalcids

Typical Pedon

A—0 to 2 inches; brown (10YR 5/3) very gravelly sandy loam, brown (10YR 4/3) moist; weak fine granular structure; soft, very friable, nonsticky and nonplastic; many very fine and fine roots; many very fine interstitial pores; 40 percent gravel, 10 percent cobble, and 1 percent stone; violently effervescent; moderately alkaline (pH 8.0); abrupt smooth boundary.

Bk—2 to 11 inches; yellowish brown (10YR 5/4) very gravelly sandy loam, dark yellowish brown (10YR 4/4) moist; weak fine subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; many very fine through medium roots; common very fine tubular pores; common very thick calcium

carbonate pendants of the undersides of rock fragments; 30 percent gravel, 10 percent cobble, and 1 percent stone; violently effervescent; moderately alkaline (pH 8.0); abrupt smooth boundary.

Bkm—11 inches; indurate petrocalcic horizon.

Type location: In an area of Meadview-Yurm family complex, 4 to 25 percent slopes; about 2,700 feet north and 2,500 feet west of the southeast corner of sec. 7, T. 29 N., R. 16 W.

Range in Characteristics

Use of the "Yurm family" reference term is a convention to reduce name length and implies no specific use of a soil series, reduced mapping intensity, or range of properties beyond that which is described in the map unit description and database. Use, management, and interpretations are not affected.

Control section
Clay content: 5 to 15 percent
Rock fragments: average 35 to 50 percent by volume

A horizon
Value: 5 to 7 dry, 4 to 6 moist
Chroma: 2 to 4, dry or moist

Bk horizon
Value: 5 to 8 dry, 4 to 8 moist
Chroma: 3 or 4, dry or moist
Texture: fine sandy loam, sandy loam

Zibate family

Depth class: shallow to bedrock (lithic)
Drainage class: well drained
Permeability: moderately slow
Landform: hills
Parent material: alluvium and colluvium derived from mixed rock sources
Slope: 5 to 30 percent
Elevation: 3,500 to 4,500 feet
Mean annual precipitation: 9 to 12 inches
Mean annual air temperature: 59 to 64 degrees F
Frost-free period: 200 to 230 days
Classification: Loamy-skeletal, mixed, superactive, thermic Lithic Haplargids

Typical Pedon

A—0 to 2 inches; brown (10YR 5/3) very stony loam, dark brown (10YR 3/3) moist; weak fine granular structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine roots; common very fine interstitial pores; 15 percent gravel, 15 percent cobble, and 20 percent stone; noneffervescent; slightly alkaline (pH 7.8); abrupt smooth boundary.

Bt—2 to 17 inches; brown (10YR 5/3) very stony clay loam, dark brown (10YR 3/3) moist; strong very fine subangular blocky structure; very hard, firm, very sticky and very plastic; few thin clay films on faces of peds and lining pores; 15 percent gravel, 15 percent cobble, and 20 percent stone; noneffervescent; slightly alkaline (pH 7.8); abrupt irregular boundary.

R—17 inches; hard, fractured rhyolitic bedrock.

Type location: In an area of Zibate family very stony loam, 12 to 30 percent slopes; about 600 feet south and 900 feet east of the northwest corner of sec. 23, T. 23 N., R. 19 W.

Range in Characteristics

Use of the "Zibate family" reference term is a convention to reduce name length and implies no specific use of a soil series, reduced mapping intensity, or range of properties beyond that which is described in the map unit description and database. Use, management, and interpretations are not affected.

Effervescence: Noneffervescent to strongly effervescent
Clay content: averages 18 to 35 percent in the particle-size control section

A horizon
Hue: 10YR, 7.5YR
Value: 3 to 6 dry, 3 to 5 moist
Chroma: 3 or 4, dry or moist

Bt horizons
Hue: 10YR, 7.5YR
Value: 3 to 5, dry or moist
Chroma: 3 or 4, dry or moist
Texture: clay, loam, clay loam
Rock fragments: 35 to 85 percent

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Glossary

Aeration, soil. The exchange of air in soil with air from the atmosphere. The air in a well aerated soil is similar to that in the atmosphere; the air in a poorly aerated soil is considerably higher in carbon dioxide and lower in oxygen.

Aggregate, soil. Many fine particles held in a single mass or cluster. Natural soil aggregates, such as granules, blocks, or prisms, are called peds. Clods are aggregates produced by tillage or logging.

Sodic soil. A soil having so high a degree of alkalinity (pH 8.5 or higher) or so high a percentage of exchangeable sodium (15 percent or more of the total exchangeable bases), or both, that plant growth is restricted.

Alluvial fan. The fanlike deposit of a stream where it issues from a gorge upon a plain or of a tributary stream near or at its junction with its main stream.

Alluvium. Material, such as sand, silt, or clay, deposited on land by streams.

Aquic conditions. Current soil wetness characterized by saturation, reduction, and redoximorphic features.

Argillic horizon. A subsoil horizon characterized by an accumulation of illuvial clay.

Aspect. The direction in which a slope faces.

Association, soil. A group of soils or miscellaneous areas geographically associated in a characteristic repeating pattern and defined and delineated as a single map unit.

Available water capacity (available moisture capacity). The capacity of soils to hold water available for use by most plants. It is commonly defined as the difference between the amount of soil water at field moisture capacity and the amount at wilting point. It is commonly expressed as inches of water per inch of soil.

Backslope. The position that forms the steepest and generally linear, middle portion of a hillslope. In profile, backslopes are commonly bounded by a convex shoulder above and a concave footslope below.

Badland. Steep or very steep, commonly nonstony, barren land dissected by many intermittent drainage channels. Badland is most common in semiarid and arid regions where streams are entrenched in soft geologic material. Local relief generally ranges from 25 to 500 feet. Runoff potential is very high, and geologic erosion is active.

Base saturation. The degree to which material having cation-exchange properties is saturated with exchangeable bases (sum of Ca, Mg, Na, and K), expressed as a percentage of the total cation-exchange capacity.

Bedding planes. Fine strata, less than 5 millimeters thick, in unconsolidated alluvial, eolian, lacustrine, or marine sediment.

Bedrock. The solid rock that underlies the soil and other unconsolidated material or that is exposed at the surface.

Boulders. Rock fragments larger than 2 feet (60 centimeters) in diameter.

Calcareous soil. A soil containing enough calcium carbonate (commonly combined with magnesium carbonate) to effervesce visibly when treated with cold, dilute hydrochloric acid.

Canyon. A long, deep, narrow, very steep sided valley with high, precipitous walls in an area of high local relief.

Capillary water. Water held as a film around soil particles and in tiny spaces between particles. Surface tension is the adhesive force that holds capillary water in the soil.

Cation. An ion carrying a positive charge of electricity. The common soil cations are calcium, potassium, magnesium, sodium, and hydrogen.

Cation-exchange capacity. The total amount of exchangeable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. The term, as applied to soils, is synonymous with base-exchange capacity but is more precise in meaning.

Channery soil material. Soil material that has, by volume, 15 to 35 percent thin, flat fragments of sandstone, shale, slate, limestone, or schist as much as 6 inches (15 centimeters) along the longest axis. A single piece is called a channer.

Chemical treatment. Control of unwanted vegetation through the use of chemicals.

Clay. As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.

Clay depletions. Low-chroma zones having a low content of iron, manganese, and clay because of the chemical reduction of iron and manganese and the removal of iron, manganese, and clay. A type of redoximorphic depletion.

Clay film. A thin coating of oriented clay on the surface of a soil aggregate or lining pores or root channels. Synonyms: clay coating, clay skin.

Coarse textured soil. Sand or loamy sand.

Cobble (or cobblestone). A rounded or partly rounded fragment of rock 3 to 10 inches (7.6 to 25 centimeters) in diameter.

Cobbly soil material. Material that has 15 to 35 percent, by volume, rounded or partially rounded rock fragments 3 to 10 inches (7.6 to 25 centimeters) in diameter. Very cobbly soil material has 35 to 60 percent of these rock fragments, and extremely cobbly soil material has more than 60 percent.

COLE (coefficient of linear extensibility). See Linear extensibility.

Colluvium. Soil material or rock fragments, or both, moved by creep, slide, or local wash and deposited at the base of steep slopes.

Complex, soil. A map unit of two or more kinds of soil or miscellaneous areas in such an intricate pattern or so small in area that it is not practical to map them separately at the selected scale of mapping. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas.

Concretions. Cemented bodies with crude internal symmetry organized around a point, a line, or a plane. They typically take the form of concentric layers visible to the naked eye. Calcium carbonate, iron oxide, and manganese oxide are common compounds making up concretions. If formed in place, concretions of iron oxide or manganese oxide are generally considered a type of redoximorphic concentration.

Conglomerate. A coarse grained, clastic rock composed of rounded or subangular rock fragments more than 2 millimeters in diameter. It commonly has a matrix of sand and finer textured material. Conglomerate is the consolidated equivalent of gravel.

Consistence, soil. Refers to the degree of cohesion and adhesion of soil material and its resistance to deformation when ruptured. Consistence includes resistance of soil material to rupture and to penetration; plasticity, toughness, and stickiness of puddled soil material; and the manner in which the soil material behaves when subject to compression. Terms describing consistence are defined in the "Soil Survey Manual."

Control section. The part of the soil on which classification is based. The thickness varies among different kinds of soil, but for many it is that part of the soil profile between depths of 10 inches and 40 or 80 inches.

Corrosion. Soil-induced electrochemical or chemical action that dissolves or weakens concrete or uncoated steel.

Cutbanks cave (in tables). The walls of excavations tend to cave in or slough.

Dense layer (in tables). A very firm, massive layer that has a bulk density of more than 1.8 grams per cubic centimeter. Such a layer affects the ease of digging and can affect filling and compacting.

Depth, soil. Generally, the thickness of the soil over bedrock. Very deep soils are more than 60 inches deep over bedrock; deep soils, 40 to 60 inches; moderately deep, 20 to 40 inches; shallow, 10 to 20 inches; and very shallow, less than 10 inches.

Desert pavement. On a desert surface, a layer of gravel or larger fragments that was emplaced by upward movement of the underlying sediments or that remains after finer particles have been removed by running water or the wind.

Drainage class (natural). Refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Alterations of the water regime by human activities, either through drainage or irrigation, are not a consideration unless they have significantly changed the morphology of the soil. Seven classes of natural soil drainage are recognized—*excessively drained, somewhat excessively drained, well drained, moderately well drained, somewhat poorly drained, poorly drained,* and *very poorly drained*. These classes are defined in the "Soil Survey Manual."

Drainage, surface. Runoff, or surface flow of water, from an area.

Ecological site. An area where climate, soil, and relief are sufficiently uniform to produce a distinct natural plant community. An ecological site is the product of all the environmental factors responsible for its development. It is typified by an association of species that differ from those on other ecological sites in kind and/or proportion of species or in total production.

Eluviation. The movement of material in true solution

or colloidal suspension from one place to another within the soil. Soil horizons that have lost material through eluviation are eluvial; those that have received material are illuvial.

Eolian soil material. Earthy parent material accumulated through wind action; commonly refers to sandy material in dunes or to loess in blankets on the surface.

Erosion. The wearing away of the land surface by water, wind, ice, or other geologic agents and by such processes as gravitational creep.

Erosion (geologic). Erosion caused by geologic processes acting over long geologic periods and resulting in the wearing away of mountains and the building up of such landscape features as flood plains and coastal plains. Synonym: natural erosion.

Erosion (accelerated). Erosion much more rapid than geologic erosion, mainly as a result of human or animal activities or of a catastrophe in nature, such as a fire, that exposes the surface.

Escarpment. A relatively continuous and steep slope or cliff breaking the general continuity of more gently sloping land surfaces and resulting from erosion or faulting. Synonym: scarp.

Extrusive rock. Igneous rock derived from deep-seated molten matter (magma) emplaced on the earth's surface.

Fan terrace. A relict alluvial fan, no longer a site of active deposition, incised by younger and lower alluvial surfaces.

Fertility, soil. The quality that enables a soil to provide plant nutrients, in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tilth, and other growth factors are favorable.

Field moisture capacity. The moisture content of a soil, expressed as a percentage of the ovendry weight, after the gravitational, or free, water has drained away; the field moisture content 2 or 3 days after a soaking rain; also called *normal field capacity, normal moisture capacity,* or *capillary capacity*.

Fine textured soil. Sandy clay, silty clay, or clay.

Flaggy soil material. Material that has, by volume, 15 to 35 percent flagstones. Very flaggy soil material has 35 to 60 percent flagstones, and extremely flaggy soil material has more than 60 percent flagstones.

Flagstone. A thin fragment of sandstone, limestone, slate, shale, or (rarely) schist 6 to 15 inches (15 to 38 centimeters) long.

Flood plain. A nearly level alluvial plain that borders a stream and is subject to flooding unless protected artificially.

Foothill. A steeply sloping upland that has relief of as much as 1,000 feet (300 meters) and fringes a mountain range or high-plateau escarpment.

Footslope. The position that forms the inner, gently inclined surface at the base of a hillslope. In profile, footslopes are commonly concave. A footslope is a transition zone between upslope sites of erosion and transport (shoulders and backslopes) and downslope sites of deposition (toeslopes).

Forb. Any herbaceous plant not a grass or a sedge.

Genesis, soil. The mode of origin of the soil. Refers especially to the processes or soil-forming factors responsible for the formation of the solum, or true soil, from the unconsolidated parent material.

Gravel. Rounded or angular fragments of rock as much as 3 inches (2 millimeters to 7.6 centimeters) in diameter. An individual piece is a pebble.

Gravelly soil material. Material that has 15 to 35 percent, by volume, rounded or angular rock fragments, not prominently flattened, as much as 3 inches (7.6 centimeters) in diameter.

Ground water. Water filling all the unblocked pores of the material below the water table.

Gully. A miniature valley with steep sides cut by running water and through which water ordinarily runs only after rainfall. The distinction between a gully and a rill is one of depth. A gully generally is an obstacle to farm machinery and is too deep to be obliterated by ordinary tillage; a rill is of lesser depth and can be smoothed over by ordinary tillage.

Hard bedrock. Bedrock that cannot be excavated except by blasting or by the use of special equipment that is not commonly used in construction.

Hardpan. A hardened or cemented soil horizon, or layer. The soil material is sandy, loamy, or clayey and is cemented by iron oxide, silica, calcium carbonate, or other substance.

Hard to reclaim (in tables). Reclamation is difficult after the removal of soil for construction and other uses. Revegetation and erosion control are extremely difficult.

Head slope. A geomorphic component of hills consisting of a laterally concave area of a hillside, especially at the head of a drainageway. The overland waterflow is converging.

Horizon, soil. A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes. In the

identification of soil horizons, an uppercase letter represents the major horizons. Numbers or lowercase letters that follow represent subdivisions of the major horizons. An explanation of the subdivisions is given in the "Soil Survey Manual." The major horizons of mineral soil are as follows:
O horizon.—An organic layer of fresh and decaying plant residue.
A horizon.—The mineral horizon at or near the surface in which an accumulation of humified organic matter is mixed with the mineral material. Also, a plowed surface horizon, most of which was originally part of a B horizon.
E horizon.—The mineral horizon in which the main feature is loss of silicate clay, iron, aluminum, or some combination of these.
B horizon.—The mineral horizon below an A horizon. The B horizon is in part a layer of transition from the overlying A to the underlying C horizon. The B horizon also has distinctive characteristics, such as (1) accumulation of clay, sesquioxides, humus, or a combination of these; (2) prismatic or blocky structure; (3) redder or browner colors than those in the A horizon; or (4) a combination of these.
C horizon.—The mineral horizon or layer, excluding indurated bedrock, that is little affected by soil-forming processes and does not have the properties typical of the overlying soil material. The material of a C horizon may be either like or unlike that in which the solum formed. If the material is known to differ from that in the solum, an Arabic numeral, commonly a 2, precedes the letter C.
Cr horizon.—Soft, consolidated bedrock beneath the soil.
R layer.—Consolidated bedrock beneath the soil. The bedrock commonly underlies a C horizon, but it can be directly below an A or a B horizon.

Humus. The well decomposed, more or less stable part of the organic matter in mineral soils.

Hydrologic soil groups. Refers to soils grouped according to their runoff potential. The soil properties that influence this potential are those that affect the minimum rate of water infiltration on a bare soil during periods after prolonged wetting when the soil is not frozen. These properties are depth to a seasonal high water table, the infiltration rate and permeability after prolonged wetting, and depth to a very slowly permeable layer. The slope and the kind of plant cover are not considered but are separate factors in predicting runoff.

Igneous rock. Rock formed by solidification from a molten or partially molten state. Major varieties include plutonic and volcanic rock. Examples are andesite, basalt, and granite.

Illuviation. The movement of soil material from one horizon to another in the soil profile. Generally, material is removed from an upper horizon and deposited in a lower horizon.

Impervious soil. A soil through which water, air, or roots penetrate slowly or not at all. No soil is absolutely impervious to air and water all the time.

Infiltration. The downward entry of water into the immediate surface of soil or other material, as contrasted with percolation, which is movement of water through soil layers or material.

Infiltration capacity. The maximum rate at which water can infiltrate into a soil under a given set of conditions.

Infiltration rate. The rate at which water penetrates the surface of the soil at any given instant, usually expressed in inches per hour. The rate can be limited by the infiltration capacity of the soil or the rate at which water is applied at the surface.

Iron depletions. Low-chroma zones having a low content of iron and manganese oxide because of chemical reduction and removal, but having a clay content similar to that of the adjacent matrix. A type of redoximorphic depletion.

Irrigation. Application of water to soils to assist in production of crops. Methods of irrigation are:
Basin.—Water is applied rapidly to nearly level plains surrounded by levees or dikes.

K_{sat}. Saturated hydraulic conductivity. (See Permeability.)

Lacustrine deposit. Material deposited in lake water and exposed when the water level is lowered or the elevation of the land is raised.

Land capability classification. A system of grouping soils primarily on the basis of their capability to produce common cultivated crops and pasture plants without deteriorating over a long period of time. Separate classifications are given for irrigated and nonirrigated soils. In Arizona, irrigated land capability classifications are applied only to cultivated soils. (NRCS, Arizona, 2001).

Large stones (in tables). Rock fragments 3 inches (7.6 centimeters) or more across. Large stones adversely affect the specified use of the soil.

Leaching. The removal of soluble material from soil or other material by percolating water.

Linear extensibility. Refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. Linear extensibility is used to determine the shrink-swell potential of soils. It is an expression of the volume

change between the water content of the clod at 1/3- or 1/10-bar tension (33kPa or 10kPa tension) and oven dryness. Volume change is influenced by the amount and type of clay minerals in the soil. The volume change is the percent change for the whole soil. If it is expressed as a fraction, the resulting value is COLE, coefficient of linear extensibility.

Liquid limit. The moisture content at which the soil passes from a plastic to a liquid state.

Loam. Soil material that is 7 to 27 percent clay particles, 28 to 50 percent silt particles, and less than 52 percent sand particles.

Low strength. The soil is not strong enough to support loads.

Masses. Concentrations of substances in the soil matrix that do not have a clearly defined boundary with the surrounding soil material and cannot be removed as a discrete unit. Common compounds making up masses are calcium carbonate, gypsum or other soluble salts, iron oxide, and manganese oxide. Masses consisting of iron oxide or manganese oxide generally are considered a type of redoximorphic concentration.

Mechanical treatment. Use of mechanical equipment for seeding, brush management, and other management practices.

Medium textured soil. Very fine sandy loam, loam, silt loam, or silt.

Mesa. A broad, nearly flat topped and commonly isolated upland mass characterized by summit widths that are more than the heights of bounding erosional scarps.

Metamorphic rock. Rock of any origin altered in mineralogical composition, chemical composition, or structure by heat, pressure, and movement. Nearly all such rocks are crystalline.

Mineral soil. Soil that is mainly mineral material and low in organic material. Its bulk density is more than that of organic soil.

Miscellaneous area. An area that has little or no natural soil and supports little or no vegetation.

Moderately coarse textured soil. Coarse sandy loam, sandy loam, or fine sandy loam.

Moderately fine textured soil. Clay loam, sandy clay loam, or silty clay loam.

Mollic epipedon. A thick, dark, humus-rich surface horizon (or horizons) that has high base saturation and pedogenic soil structure. It may include the upper part of the subsoil.

Morphology, soil. The physical makeup of the soil, including the texture, structure, porosity, consistence, color, and other physical, mineral, and biological properties of the various horizons, and the thickness and arrangement of those horizons in the soil profile.

Mottling, soil. Irregular spots of different colors that vary in number and size. Descriptive terms are as follows: abundance—*few, common,* and *many;* size—*fine, medium,* and *coarse;* and contrast—*faint, distinct,* and *prominent*. The size measurements are of the diameter along the greatest dimension. *Fine* indicates less than 5 millimeters (about 0.2 inch); *medium,* from 5 to 15 millimeters (about 0.2 to 0.6 inch); and *coarse,* more than 15 millimeters (about 0.6 inch).

Mountain. A natural elevation of the land surface, rising more than 1,000 feet above surrounding lowlands, commonly of restricted summit area (relative to a plateau) and generally having steep sides. A mountain can occur as a single, isolated mass or in a group forming a chain or range.

Mudstone. Sedimentary rock formed by induration of silt and clay in approximately equal amounts.

Munsell notation. A designation of color by degrees of three simple variables—hue, value, and chroma. For example, a notation of 10YR 6/4 is a color with hue of 10YR, value of 6, and chroma of 4.

Natric horizon. A special kind of argillic horizon that contains enough exchangeable sodium to have an adverse effect on the physical condition of the subsoil.

Neutral soil. A soil having a pH value of 6.6 to 7.3. (See Reaction, soil.)

Nodules. Cemented bodies lacking visible internal structure. Calcium carbonate, iron oxide, and manganese oxide are common compounds making up nodules. If formed in place, nodules of iron oxide or manganese oxide are considered types of redoximorphic concentrations.

Nose slope. A geomorphic component of hills consisting of the projecting end (laterally convex area) of a hillside. The overland waterflow is predominantly divergent.

Nutrient, plant. Any element taken in by a plant essential to its growth. Plant nutrients are mainly nitrogen, phosphorus, potassium, calcium, magnesium, sulfur, iron, manganese, copper, boron, and zinc obtained from the soil and carbon, hydrogen, and oxygen obtained from the air and water.

Organic matter. Plant and animal residue in the soil in various stages of decomposition. The content of organic matter in the surface layer is described as follows:

Very low	less than 0.5 percent
Low	0.5 to 1.0 percent
Moderately low	1.0 to 2.0 percent
Moderate	2.0 to 4.0 percent
High	4.0 to 8.0 percent
Very high	more than 8.0 percent

Pan. A compact, dense layer in a soil that impedes the movement of water and the growth of roots. For example, *hardpan, fragipan, claypan, plowpan,* and *traffic pan*.

Parent material. The unconsolidated organic and mineral material in which soil forms.

Ped. An individual natural soil aggregate, such as a granule, a prism, or a block.

Pedon. The smallest volume that can be called "a soil." A pedon is three dimensional and large enough to permit study of all horizons. Its area ranges from about 10 to 100 square feet (1 square meter to 10 square meters), depending on the variability of the soil.

Percolation. The movement of water through the soil.

Permeability. The quality of the soil that enables water or air to move downward through the profile. The rate at which a saturated soil transmits water is accepted as a measure of this quality. In soil physics, the rate is referred to as "saturated hydraulic conductivity," which is defined in the "Soil Survey Manual." In line with conventional usage in the engineering profession and with traditional usage in published soil surveys, this rate of flow continues to be expressed as "permeability." Terms describing permeability, measured in inches per hour, are as follows:

Impermeable	less than 0.0015 inch
Very slow	0.0015 to 0.06 inch
Slow	0.06 to 0.2 inch
Moderately slow	0.2 to 0.6 inch
Moderate	0.6 inch to 2.0 inches
Moderately rapid	2.0 to 6.0 inches
Rapid	6.0 to 20 inches
Very rapid	more than 20 inches

Phase, soil. A subdivision of a soil series based on features that affect its use and management, such as slope, stoniness, and flooding.

pH value. A numerical designation of acidity and alkalinity in soil. (See Reaction, soil.)

Piping (in tables). Formation of subsurface tunnels or pipelike cavities by water moving through the soil.

Pitting (in tables). Pits caused by melting around ice. They form on the soil after plant cover is removed.

Plasticity index. The numerical difference between the liquid limit and the plastic limit; the range of moisture content within which the soil remains plastic.

Plastic limit. The moisture content at which a soil changes from semisolid to plastic.

Plateau. An extensive upland mass with relatively flat summit area that is considerably elevated (more than 100 meters) above adjacent lowlands and separated from them on one or more sides by escarpments.

Playa. The generally dry and nearly level lake plain that occupies the lowest parts of closed depressional areas, such as those on intermontane basin floors. Temporary flooding occurs primarily in response to precipitation and runoff.

Ponding. Standing water on soils in closed depressions. Unless the soils are artificially drained, the water can be removed only by percolation or evapotranspiration.

Poorly graded. Refers to a coarse grained soil or soil material consisting mainly of particles of nearly the same size. Because there is little difference in size of the particles, density can be increased only slightly by compaction.

Potential rooting depth (effective rooting depth). Depth to which roots could penetrate if the content of moisture in the soil were adequate. The soil has no properties restricting the penetration of roots to this depth.

Prescribed burning. Deliberately burning an area for specific management purposes, under the appropriate conditions of weather and soil moisture and at the proper time of day.

Productivity, soil. The capability of a soil for producing a specified plant or sequence of plants under specific management.

Profile, soil. A vertical section of the soil extending through all its horizons and into the parent material.

Proper grazing use. Grazing at an intensity that maintains enough cover to protect the soil and maintain or improve the quantity and quality of the desirable vegetation. This practice increases the vigor and reproduction capacity of the key plants and promotes the accumulation of litter and mulch necessary to conserve soil and water.

Rangeland. Land on which the potential natural vegetation is predominantly grasses, grasslike plants, forbs, or shrubs suitable for grazing or browsing. It includes natural grasslands, savannas, many wetlands, some deserts, tundras, and areas that support certain forb and shrub communities.

Reaction, soil. A measure of acidity or alkalinity of a

soil, expressed in pH values. A soil that tests to pH 7.0 is described as precisely neutral in reaction because it is neither acid nor alkaline. The degrees of acidity or alkalinity, expressed as pH values, are:

Ultra acid	less than 3.5
Extremely acid	3.5 to 4.4
Very strongly acid	4.5 to 5.0
Strongly acid	5.1 to 5.5
Moderately acid	5.6 to 6.0
Slightly acid	6.1 to 6.5
Neutral	6.6 to 7.3
Slightly alkaline	7.4 to 7.8
Moderately alkaline	7.9 to 8.4
Strongly alkaline	8.5 to 9.0
Very strongly alkaline	9.1 and higher

Redoximorphic concentrations. Nodules, concretions, soft masses, pore linings, and other features resulting from the accumulation of iron or manganese oxide. An indication of chemical reduction and oxidation resulting from saturation.

Redoximorphic depletions. Low-chroma zones from which iron and manganese oxide or a combination of iron and manganese oxide and clay has been removed. These zones are indications of the chemical reduction of iron resulting from saturation.

Redoximorphic features. Redoximorphic concentrations, redoximorphic depletions, reduced matrices, a positive reaction to alpha,alpha-dipyridyl, and other features indicating the chemical reduction and oxidation of iron and manganese compounds resulting from saturation.

Reduced matrix. A soil matrix that has low chroma in situ because of chemically reduced iron (Fe II). The chemical reduction results from nearly continuous wetness. The matrix undergoes a change in hue or chroma within 30 minutes after exposure to air as the iron is oxidized (Fe III). A type of redoximorphic feature.

Relief. The elevations or inequalities of a land surface, considered collectively.

Residuum (residual soil material). Unconsolidated, weathered or partly weathered mineral material that accumulated as consolidated rock disintegrated in place.

Rill. A steep-sided channel resulting from accelerated erosion. A rill generally is a few inches deep and not wide enough to be an obstacle to farm machinery.

Road cut. A sloping surface produced by mechanical means during road construction. It is commonly on the uphill side of the road.

Rock fragments. Rock or mineral fragments having a diameter of 2 millimeters or more; for example, pebbles, cobbles, stones, and boulders.

Root zone. The part of the soil that can be penetrated by plant roots.

Runoff. The precipitation discharged into stream channels from an area. The water that flows off the surface of the land without sinking into the soil is called surface runoff. Water that enters the soil before reaching surface streams is called ground-water runoff or seepage flow from ground water.

Saline soil. A soil containing soluble salts in an amount that impairs growth of plants. A saline soil does not contain excess exchangeable sodium.

Sand. As a soil separate, individual rock or mineral fragments from 0.05 millimeter to 2.0 millimeters in diameter. Most sand grains consist of quartz. As a soil textural class, a soil that is 85 percent or more sand and not more than 10 percent clay.

Sandstone. Sedimentary rock containing dominantly sand-sized particles.

Saturation. Wetness characterized by zero or positive pressure of the soil water. Under conditions of saturation, the water will flow from the soil matrix into an unlined auger hole.

Sedimentary rock. Rock made up of particles deposited from suspension in water. The chief kinds of sedimentary rock are conglomerate, formed from gravel; sandstone, formed from sand; shale, formed from clay; and limestone, formed from soft masses of calcium carbonate. There are many intermediate types. Some wind-deposited sand is consolidated into sandstone.

Series, soil. A group of soils that have profiles that are almost alike, except for differences in texture of the surface layer. All the soils of a series have horizons that are similar in composition, thickness, and arrangement.

Sheet erosion. The removal of a fairly uniform layer of soil material from the land surface by the action of rainfall and surface runoff.

Shoulder. The position that forms the uppermost inclined surface near the top of a hillslope. It is a transition from backslope to summit. The surface is dominantly convex in profile and erosional in origin.

Shrink-swell (in tables). The shrinking of soil when dry and the swelling when wet. Shrinking and swelling can damage roads, dams, building foundations, and other structures. It can also damage plant roots.

Side slope. A geomorphic component of hills consisting of a laterally planar area of a hillside. The overland waterflow is predominantly parallel.

Silica. A combination of silicon and oxygen. The mineral form is called quartz.

Silt. As a soil separate, individual mineral particles that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). As a soil textural class, soil that is 80 percent or more silt and less than 12 percent clay.

Siltstone. Sedimentary rock made up of dominantly silt-sized particles.

Similar soils. Soils that share limits of diagnostic criteria, behave and perform in a similar manner, and have similar conservation needs or management requirements for the major land uses in the survey area.

Slickensides. Polished and grooved surfaces produced by one mass sliding past another. In soils, slickensides may occur at the bases of slip surfaces on the steeper slopes; on faces of blocks, prisms, and columns; and in swelling clayey soils, where there is marked change in moisture content.

Slick spot. A small area of soil having a puddled, crusted, or smooth surface and an excess of exchangeable sodium. The soil generally is silty or clayey, is slippery when wet, and is low in productivity.

Slope. The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance.

Sodic (alkali) soil. A soil having so high a degree of alkalinity (pH 8.5 or higher) or so high a percentage of exchangeable sodium (15 percent or more of the total exchangeable bases), or both, that plant growth is restricted.

Sodicity. The degree to which a soil is affected by exchangeable sodium. Sodicity is expressed as a sodium adsorption ratio (SAR) of a saturation extract, or the ratio of Na^{+} to $Ca^{++} + Mg^{++}$. The degrees of sodicity and their respective ratios are:

Slight	less than 13:1
Moderate	13-30:1
Strong	more than 30:1

Sodium adsorption ratio (SAR). A measure of the amount of sodium (Na) relative to calcium (Ca) and magnesium (Mg) in the water extract from saturated soil paste. It is the ratio of the Na concentration divided by the square root of one-half of the Ca + Mg concentration.

Soft bedrock. Bedrock that can be excavated with trenching machines, backhoes, small rippers, and other equipment commonly used in construction.

Soil. A natural, three-dimensional body at the earth's surface. It is capable of supporting plants and has properties resulting from the integrated effect of climate and living matter acting on earthy parent material, as conditioned by relief over periods of time.

Soil separates. Mineral particles less than 2 millimeters in equivalent diameter and ranging between specified size limits. The names and sizes, in millimeters, of separates recognized in the United States are as follows:

Very coarse sand	2.0 to 1.0
Coarse sand	1.0 to 0.5
Medium sand	0.5 to 0.25
Fine sand	0.25 to 0.10
Very fine sand	0.10 to 0.05
Silt	0.05 to 0.002
Clay	less than 0.002

Solum. The upper part of a soil profile, above the C horizon, in which the processes of soil formation are active. The solum in soil consists of the A, E, and B horizons. Generally, the characteristics of the material in these horizons are unlike those of the material below the solum. The living roots and plant and animal activities are largely confined to the solum.

Stones. Rock fragments 10 to 24 inches (25 to 60 centimeters) in diameter if rounded or 15 to 24 inches (38 to 60 centimeters) in length if flat.

Stony. Refers to a soil containing stones in numbers that interfere with or prevent tillage.

Structure, soil. The arrangement of primary soil particles into compound particles or aggregates. The principal forms of soil structure are—*platy* (laminated), *prismatic* (vertical axis of aggregates longer than horizontal), *columnar* (prisms with rounded tops), *blocky* (angular or subangular), and *granular*. *Structureless* soils are either *single grained* (each grain by itself, as in dune sand) or *massive* (the particles adhering without any regular cleavage, as in many hardpans).

Subsoil. Technically, the B horizon; roughly, the part of the solum below plow depth.

Substratum. The part of the soil below the solum.

Subsurface layer. Any surface soil horizon (A, E, AB, or EB) below the surface layer.

Summit. The topographically highest position of a hillslope. It has a nearly level (planar or only slightly convex) surface.

Surface layer. The soil ordinarily moved in tillage, or

its equivalent in uncultivated soil, ranging in depth from 4 to 10 inches (10 to 25 centimeters). Frequently designated as the "plow layer," or the "Ap horizon."

Surface soil. The A, E, AB, and EB horizons, considered collectively. It includes all subdivisions of these horizons.

Talus. Fragments of rock and other soil material accumulated by gravity at the foot of cliffs or steep slopes.

Taxadjuncts. Soils that cannot be classified in a series recognized in the classification system. Such soils are named for a series they strongly resemble and are designated as taxadjuncts to that series because they differ in ways too small to be of consequence in interpreting their use and behavior. Soils are recognized as taxadjuncts only when one or more of their characteristics are slightly outside the range defined for the family of the series for which the soils are named.

Terrace. An embankment, or ridge, constructed across sloping soils on the contour or at a slight angle to the contour. The terrace intercepts surface runoff so that water soaks into the soil or flows slowly to a prepared outlet. A terrace in a field generally is built so that the field can be farmed. A terrace intended mainly for drainage has a deep channel that is maintained in permanent sod.

Terrace (geologic). An old alluvial plain, ordinarily flat or undulating, bordering a river, a lake, or the sea.

Texture, soil. The relative proportions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportion of fine particles, are *sand, loamy sand, sandy loam, loam, silt loam, silt, sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay,* and *clay*. The sand, loamy sand, and sandy loam classes may be further divided by specifying "coarse," "fine," or "very fine."

Thin layer (in tables). Otherwise suitable soil material that is too thin for the specified use.

Tilth, soil. The physical condition of the soil as related to tillage, seedbed preparation, seedling emergence, and root penetration.

Toeslope. The position that forms the gently inclined surface at the base of a hillslope. Toeslopes in profile are commonly gentle and linear and are constructional surfaces forming the lower part of a hillslope continuum that grades to valley or closed-depression floors.

Topsoil. The upper part of the soil, which is the most favorable material for plant growth. It is ordinarily rich in organic matter and is used to topdress roadbanks, lawns, and land affected by mining.

Trace elements. Chemical elements, for example, zinc, cobalt, manganese, copper, and iron, in soils in extremely small amounts. They are essential to plant growth.

Tuff. A compacted deposit that is 50 percent or more volcanic ash and dust.

Upland. Land at a higher elevation, in general, than the alluvial plain or stream terrace; land above the lowlands along streams.

Weathering. All physical and chemical changes produced in rocks or other deposits at or near the earth's surface by atmospheric agents. These changes result in disintegration and decomposition of the material.

Well graded. Refers to soil material consisting of coarse grained particles that are well distributed over a wide range in size or diameter. Such soil normally can be easily increased in density and bearing properties by compaction. Contrasts with poorly graded soil.

Wilting point (or permanent wilting point). The moisture content of soil, on an ovendry basis, at which a plant (specifically a sunflower) wilts so much that it does not recover when placed in a humid, dark chamber.

Tables

Table 1.--Acreage and Proportionate Extent of the Soils

Map symbol	Soil name	Acres	Percent
1	Alko family cobbly loam, 0 to 25 percent slopes	7,799	0.3
2	Alko family gravelly sandy loam, 1 to 15 percent slopes	1,008	*
3	Appleseed-Huevi association, 4 to 30 percent slopes	8,004	0.3
4	Aridic Argiustolls-Lithic Haplustolls complex, 1 to 40 percent slopes	5,859	0.2
5	Arizo-Detrital-Nickel complex, 2 to 6 percent slopes	21,124	0.9
6	Arizo-Franconia-Riverwash complex, 1 to 3 percent slopes	26,681	1.1
7	Arizo-Riverwash complex, 0 to 1 percent slopes	4,831	0.2
8	Arizo-Riverwash complex, 1 to 4 percent slopes	5,251	0.2
9	Arizo-Riverwash complex, dry, 0 to 1 percent slopes	12,824	0.5
10	Arizo-Riverwash complex, moist, 1 to 3 percent slopes	4,387	0.2
11	Azure-Detrital-Antares complex, 5 to 30 percent slopes	6,161	0.3
12	Birdsbeak very channery loam, 10 to 35 percent slopes	4,479	0.2
13	Bluebird-Detrital complex, 2 to 15 percent slopes, very stony	486	*
14	Bluebird-Lostman complex, 1 to 5 percent slopes	7,199	0.3
15	Carrizo complex, 1 to 5 percent slopes	42,539	1.7
16	Carrizo-Riverwash complex, 0 to 1 percent slopes	9,446	0.4
17	Carrizo-Riverwash complex, 3 to 8 percent slopes	26,708	1.1
18	Chuckawalla-Riverbend complex, 2 to 15 percent slopes	1,677	*
19	Circular complex, 1 to 3 percent slopes	31,480	1.3
20	Circular-Dusty complex, 0 to 4 percent slopes	14,486	0.6
21	Cod gravelly sandy loam, 2 to 6 percent slopes	2,291	*
22	Cordes-Manikan-Riverwash complex, 1 to 6 percent slopes	1,301	*
23	Cupel-Rock outcrop complex, 35 to 65 percent slopes	21,504	0.9
24	Cyclopic very stony loam, 3 to 8 percent slopes	6,779	0.3
25	Deluge-Gotchell-Sunstroke complex, 3 to 7 percent slopes	11,978	0.5
26	Detrital-Bluebird complex, 2 to 12 percent slopes	40,750	1.7
27	Detrital-Nealy complex, 1 to 6 percent slopes	1,899	*
28	Detrital-Nickel complex, dry, 1 to 6 percent slopes	26,449	1.1
29	Detrital-Nickel family complex, 1 to 4 percent slopes	66,538	2.7
30	Detrital-Skelon family complex, 1 to 5 percent slopes	8,218	0.3
31	Dusty-Kurstan family complex, 1 to 6 percent slopes	11,323	0.5
32	Dutchflat sandy loam, 0 to 2 percent slopes	57,650	2.4
33	Dye-Tovar-Rock outcrop complex, 6 to 25 percent slopes	14,216	0.6
34	Faraway-Rock outcrop complex, 30 to 70 percent slopes	625	*
35	Fig-Blind-Nodman complex, 30 to 70 percent slopes	74,130	3.0
36	Filaree gravelly sandy loam, 2 to 6 percent slopes	43,077	1.8
37	Filaree-Dutchflat complex, 2 to 6 percent slopes	26,565	1.1
38	Garnet-Dutchflat complex, 2 to 6 percent slopes	2,822	0.1
39	Goesling family silt loam, 3 to 8 percent slopes	3,071	0.1
40	Goldroad-Rock outcrop complex, 15 to 35 percent slopes	4,350	0.2
41	Goldroad-Rock outcrop complex, 35 to 65 percent slopes	49,239	2.0
42	Gonzales-Rock outcrop complex, 15 to 35 percent slopes	505	*
43	Goodsprings family gravelly sandy loam, 10 to 35 percent slopes	469	*

See footnote at end of table.

Table 1.--Acreage and Proportionate Extent of the Soils--Continued

Map symbol	Soil name	Acres	Percent
44	Gotchell-Sunstroke complex, 6 to 35 percent slopes	21,704	0.9
45	Graham-Arivaca complex, 2 to 15 percent slopes	2,272	*
46	Graham-Rock outcrop complex, 10 to 40 percent slopes	639	*
47	Grandwash extremely flaggy sandy loam, 2 to 25 percent slopes	311	*
48	Greyeagle family extremely gravelly coarse sandy loam, 15 to 40 percent slopes	3,493	0.1
49	Greyeagle family extremely gravelly sandy loam, 35 to 60 percent slopes	1,311	*
50	Greyeagle family-Cyclopic complex, 3 to 12 percent slopes	3,504	0.1
51	Greyeagle-Skelon families complex, 2 to 12 percent slopes	8,593	0.4
52	Greyeagle-Skelon families complex, moist, 4 to 25 percent slopes	15,247	0.6
53	Gypsids, 3 to 50 percent slopes	6,368	0.3
54	Haplogypsids, eroded-Haplogypsids complex, 35 to 75 percent slopes	6,363	0.3
55	Hassell family-Lampshire-Rock outcrop complex, 10 to 30 percent slopes	488	*
56	Hindu-Rock outcrop complex, 5 to 45 percent slopes	6,302	0.3
57	Hooks-Courtland families complex, 1 to 5 percent slopes	14,602	0.6
58	Hosta family sandy loam, 1 to 8 percent slopes	5,029	0.2
59	House Mountain family-Calvista family-Rock outcrop complex, 10 to 35 percent slopes	3,105	0.1
60	Huevi extremely cobbly sandy loam, 2 to 6 percent slopes	22,516	0.9
61	Huevi very gravelly loam, 10 to 40 percent slopes	2,323	*
62	Huevi very gravelly sandy loam, 15 to 35 percent slopes	47,143	1.9
63	Huevi-Carrizo complex, 1 to 25 percent slopes	26,729	1.1
64	Huevi-Carrwash complex, 2 to 75 percent slopes	4,500	0.2
65	Huevi-Sunrock-Rock outcrop complex, 20 to 70 percent slopes	10,067	0.4
66	Hulda extremely gravelly sandy loam, 20 to 65 percent slopes	22,674	0.9
67	Hulda-Rock outcrop complex, 20 to 65 percent slopes	70,074	2.9
68	Hulda-Rock outcrop complex, moist, 35 to 70 percent slopes	68,404	2.8
69	Ireteba family-Arizo complex, 1 to 3 percent slopes	17	*
70	Jagerson very gravelly loam, 0 to 4 percent slopes	37,023	1.5
71	Jagerson-Nealy complex, 1 to 3 percent slopes	6,905	0.3
72	Kingtut-Promontory complex, 3 to 12 percent slopes	6,886	0.3
73	Kinley gravelly loamy sand, 15 to 35 percent slopes	210	*
74	Kurstan family-Dusty complex, 2 to 6 percent slopes	20,656	0.8
75	Lampshire-Rock outcrop complex, 20 to 60 percent slopes	28	*
76	Lostman gravelly sandy loam, moist, 1 to 5 percent slopes	86,044	3.5
77	Lostman sandy loam, 1 to 4 percent slopes	10,668	0.4
78	Luzena-Thunderbird complex, 3 to 20 percent slopes	38,538	1.6
79	Lykorly gravelly loam, 1 to 4 percent slopes	288	*
80	Lykorly silt loam, moist, 1 to 5 percent slopes	2,211	*
81	Manikan-Nuffel complex, 1 to 3 percent slopes	759	*
82	Mathis family-Riverwash complex, 1 to 4 percent slopes	606	*
83	Mayswell-Rock outcrop complex, 5 to 40 percent slopes	3,540	0.1
84	Meadview extremely gravelly sandy loam, 5 to 40 percent slopes	6,849	0.3

See footnote at end of table.

Table 1.--Acreage and Proportionate Extent of the Soils--Continued

Map symbol	Soil name	Acres	Percent
85	Meadview-Yurm family complex, 4 to 25 percent slopes	13,866	0.6
86	Meriwhitica-Rock outcrop complex, 5 to 35 percent slopes	9,679	0.4
87	Mextank very gravelly sandy loam, 2 to 15 percent slopes	307	*
88	Milkweed-Quartermaster-Buckndoe complex, 2 to 20 percent slopes	83	*
89	Milok-Pastern complex, 4 to 12 percent slopes	10,298	0.4
90	Mutang-Dutchflat complex, 0 to 3 percent slopes	37,741	1.6
91	Mutang-Wikieup-Rock outcrop complex, 3 to 30 percent slopes	2,867	0.1
92	Nealy-Shamock family complex, 2 to 8 percent slopes	3,488	0.1
93	Nealy-Skelon family-Detrital complex, 3 to 10 percent slopes	6,964	0.3
94	Nickel family-Bluebird complex, 15 to 45 percent slopes	41,877	1.7
95	Nickel-Skelon family-Detrital complex, 3 to 10 percent slopes	19,270	0.8
96	Nickel-Topawa-Eba families complex, 10 to 50 percent slopes	91	*
97	Nodman-Antares complex, 3 to 15 percent slopes	11,081	0.5
98	Nodman-Courtland family complex, 2 to 20 percent slopes	7,081	0.3
99	Nodman-Rock outcrop complex, 15 to 65 percent slopes	28,867	1.2
100	Nodman-Romero family complex, 15 to 65 percent slopes	27,336	1.1
101	Nolam family-Ustalfic Petrocalcids-Caralampi family complex, 1 to 15 percent slopes	27,344	1.1
102	Ohaco family-Bluebird complex, 2 to 8 percent slopes	4,114	0.2
103	Orejano gravelly sandy loam, 4 to 35 percent slopes	3,481	0.1
104	Pantak family-Taine-Terino family complex, 15 to 65 percent slopes	20,088	0.8
105	Pastern-Strych complex, 4 to 20 percent slopes	15,364	0.6
106	Peachsprings-Havasupai complex, 2 to 35 percent slopes	8,074	0.3
107	Pearce extremely stony loam, 4 to 15 percent slopes	4,316	0.2
108	Pearce-Detrital-Rock outcrop complex, 20 to 75 percent slopes	6,667	0.3
109	Pearce-Rock outcrop complex, 5 to 65 percent slopes	7,730	0.3
110	Pedregosa-Tombstone families complex, 1 to 15 percent slopes	8,124	0.3
111	Pidineen-Tricon families complex, 2 to 10 percent slopes	3,996	0.2
112	Pits-Dumps complex	1,987	*
113	Playa	13,363	0.5
114	Prieta-Rock outcrop complex, 2 to 35 percent slopes	1,594	*
115	Quagwa silt loam, 1 to 3 percent slopes	793	*
116	Razorback extremely gravelly sandy loam, 15 to 35 percent slopes	13,007	0.5
117	Razorback-Rock outcrop complex, 15 to 70 percent slopes	3,180	0.1
118	Razorback-Rock outcrop complex, 20 to 70 percent slopes	39,967	1.6
119	Rift silt loam, 0 to 1 percent slopes, frequently flooded	4,300	0.2
120	Rift silty clay loam, 0 to 1 percent slopes	28,172	1.2
121	Rillino family-Shamock family-Dutchflat complex, 1 to 4 percent slopes	1,096	*
122	Rock outcrop-Appleseed complex, 35 to 75 percent slopes	5,490	0.2
123	Rock outcrop-Pearce complex, 35 to 75 percent slopes	6,843	0.3
124	Rock outcrop-Razorback complex, 20 to 70 percent slopes	1,397	*
125	Rock outcrop-Torriorthents complex, 35 to 75 percent slopes	11,157	0.5
126	Rock outcrop-Torriorthents, cool complex, 35 to 75 percent slopes	2,180	*

See footnote at end of table.

Table 1.--Acreage and Proportionate Extent of the Soils--Continued

Map symbol	Soil name	Acres	Percent
127	Rock outcrop-Valena-Kopie family complex, 5 to 35 percent slopes	17,105	0.7
128	Rolie-Dean complex, 2 to 20 percent slopes	2,310	*
129	Romero-Chiricahua-Rock outcrop complex, 5 to 35 percent slopes	84	*
130	Romero-Lampshire-Rock outcrop complex, 35 to 70 percent slopes	4,161	0.2
131	Rositas sand, 4 to 30 percent slopes	1,454	*
132	Shortbread loamy sand, 1 to 4 percent slopes	3,812	0.2
133	Shortbread-Kurstan family-Dusty complex, 0 to 7 percent slopes	17,388	0.7
134	Skelon family-Greyeagle family-Detrital complex, 3 to 30 percent slopes	8,112	0.3
135	Skelon-Pinaleno families complex, 1 to 4 percent slopes	7,216	0.3
136	Storybook very gravelly loam, 1 to 3 percent slopes	4,033	0.2
137	Stronghold-McAllister families complex, 2 to 15 percent slopes	17,041	0.7
138	Sunrock extremely gravelly sandy loam, 15 to 35 percent slopes	38,116	1.6
139	Sunrock-Rock outcrop complex, 30 to 65 percent slopes	76,411	3.1
140	Superstition family-Carrwash complex, 35 to 75 percent slopes	9,940	0.4
141	Taine extremely cobbly loam, 12 to 35 percent	19,514	0.8
142	Thimble-Rock outcrop complex, 35 to 65 percent slopes	6,992	0.3
143	Tombstone-Caralampi-Nolam families complex, 2 to 30 percent slopes	22,064	0.9
144	Torriorthents, 25 to 75 percent slopes	4,219	0.2
145	Torriorthents, gypsic-Haplocambids, gypsic complex, 3 to 15 percent slopes	4,195	0.2
146	Torriorthents-Rock outcrop complex, 25 to 75 percent slopes	1,006	*
147	Tovar-Grandwash complex, 6 to 25 percent slopes	19,697	0.8
148	Truxton complex, 1 to 3 percent slopes	7,835	0.3
149	Tumarion very cobbly loam, 2 to 15 percent slopes	1,676	*
150	Tumarion-Nickel family complex, 8 to 35 percent slopes	30,197	1.2
151	Tumarion-Nickel family complex, moist, 5 to 40 percent slopes	17,356	0.7
152	Tyro extremely stony sandy loam, 3 to 35 percent slopes	20,682	0.9
153	Tyro very gravelly sandy loam, 3 to 30 percent slopes	20,168	0.8
154	Tyro-Sunrock complex, 3 to 15 percent slopes	6,328	0.3
155	Urban land-Calvista family complex, 2 to 10 percent slopes	1,363	*
156	Ustorthents-Rock outcrop complex, 35 to 90 percent slopes	10,700	0.4
157	Valena-Carri complex, 3 to 15 percent slopes	13,924	0.6
158	Valena-Rock outcrop-Carri family complex, 1 to 25 percent slopes	2,385	*
159	Vekol family gravelly loamy sand, 2 to 7 percent slopes	148	*
160	Vekol family loam, 1 to 3 percent slopes	11,567	0.5
161	Vekol family-Whitehills complex, 2 to 7 percent slopes	9,510	0.4
162	Vock-Elements-Rock outcrop complex, 30 to 65 percent slopes	44,665	1.8
163	Vock-Elements-Rock outcrop complex, cool, 30 to 65 percent slopes	18,224	0.7
164	Water	51,797	2.1

See footnote at end of table.

Table 1.--Acreage and Proportionate Extent of the Soils--Continued

Map symbol	Soil name	Acres	Percent
165	White House gravelly loamy sand, 2 to 15 percent slopes	408	*
166	White House family very gravelly loamy sand, 2 to 15 percent slopes	528	*
167	Whitehills very gravelly loam, 1 to 5 percent slopes	11,683	0.5
168	Wodomont-Kydestea complex, 5 to 40 percent slopes	4,989	0.2
169	Wodomont-Metuck-Rock outcrop complex, 25 to 45 percent slopes	21,014	0.9
170	Wodomont-Rock outcrop complex, 5 to 40 percent slopes	20,923	0.9
171	Yahana family silty clay loam, 1 to 3 percent slopes	137	*
172	Zibate family extremely gravelly sandy loam, 5 to 35 percent slopes	9,545	0.4
173	Zibate family very stony loam, 12 to 30 percent slopes	24,017	1.0
174	Zibate family-Dutchflat-Tumarion complex, 4 to 30 percent slopes	6,674	0.3
	Total	2,431,200	100.0

* Less than 0.1 percent.

Table 2.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities

This soil survey does not contain sufficient information for planning and management of rangeland or forestland grazing. A detailed ecological site inventory is necessary for all management decisions.

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest Understory	Range
			Lb/acre		Pct	Pct
1:						
Alko family---	Limy Upland 6-10" p.z.	Favorable	600	big galleta		10
		Normal	350	creosotebush		20
		Unfavorable	150	white bursage		20
2:						
Alko family---	Limy Upland 10-13" p.z.	Favorable	500	Juniperus		20
		Normal	300	Yucca		10
		Unfavorable	100	broom snakeweed		20
3:						
Appleseed-----	Limestone Hills 3-6" p.z.	Favorable	125	white brittlebush		65
		Normal	75			
		Unfavorable	25			
Huevi---------	Limy Slopes 3-6" p.z.	Favorable	200	creosotebush		60
		Normal	100	white bursage		15
		Unfavorable	25			
4:						
Aridic Argiustolls--	Clayey Upland 14-18" p.z.	Favorable	1150	blue grama		15
		Normal	1000	bottlebrush squirreltail		10
		Unfavorable	850	galleta		7
				muttongrass		7
				sideoats grama		10
				western wheatgrass		25
Lithic Haplustolls--	Shallow Loamy 14-18" p.z.	Favorable	950	black grama		7
		Normal	800	blue grama		20
		Unfavorable	600	bottlebrush squirreltail		7
				muttongrass		7
				needle and thread		20
				sideoats grama		7
5:						
Arizo---------	Sandy Loam Upland 6-10" p.z. Limy Subsurface, Gravelly	Favorable	650	big galleta		20
		Normal	350	creosotebush		40
		Unfavorable	50	white bursage		20

Table 2.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest Understory	Range
			Lb/acre		Pct	Pct
5:						
Detrital------	Sandy Loam Upland 6-10" p.z. Limy Subsurface, Gravelly	Favorable	650	big galleta		20
		Normal	350	creosotebush		40
		Unfavorable	50	white bursage		20
Nickel--------	Sandy Loam Upland 6-10" p.z. Limy Subsurface, Gravelly	Favorable	650	big galleta		20
		Normal	350	creosotebush		40
		Unfavorable	50	white bursage		20
6:						
Arizo---------	Sandy Wash 6-10" p.z.	Favorable	600	catclaw acacia		15
		Normal	350	creosotebush		10
		Unfavorable	100	white burrobrush		50
Franconia-----	Sandy Wash 6-10" p.z.	Favorable	600	catclaw acacia		15
		Normal	350	creosotebush		10
		Unfavorable	100	white burrobrush		50
Riverwash-----	Sandy Wash 6-10" p.z.	Favorable	600	catclaw acacia		15
		Normal	350	creosotebush		10
		Unfavorable	100	white burrobrush		50
7:						
Arizo---------	Sandy Wash 6-10" p.z.	Favorable	600	catclaw acacia		15
		Normal	350	creosotebush		10
		Unfavorable	100	white burrobrush		50
Riverwash-----	Sandy Wash 6-10" p.z.	Favorable	600	catclaw acacia		15
		Normal	350	creosotebush		10
		Unfavorable	100	white burrobrush		50
8:						
Arizo---------	Sandy Wash 10-13" p.z.	Favorable	900	catclaw acacia		15
		Normal	550	creosotebush		10
		Unfavorable	200	white burrobrush		35
Riverwash-----	Sandy Wash 10-13" p.z.	Favorable	900	catclaw acacia		15
		Normal	550	creosotebush		10
		Unfavorable	200	white burrobrush		35

Table 2.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest Understory	Range
			Lb/acre		Pct	Pct
9:						
Arizo---------	Sandy Wash 6-10" p.z.	Favorable	600	catclaw acacia		15
		Normal	350	creosotebush		10
		Unfavorable	100	white burrobrush		50
Riverwash-----	Sandy Wash 6-10" p.z.	Favorable	600	catclaw acacia		15
		Normal	350	creosotebush		10
		Unfavorable	100	white burrobrush		50
10:						
Arizo---------	Sandy Wash 10-13" p.z.	Favorable	900	catclaw acacia		15
		Normal	550	creosotebush		10
		Unfavorable	200	white burrobrush		35
Riverwash-----	Sandy Wash 10-13" p.z.	Favorable	900	catclaw acacia		15
		Normal	550	creosotebush		10
		Unfavorable	200	white burrobrush		35
11:						
Azure---------	Granitic/Schist Upland 10-13" p.z. Alkaline	Favorable	800	Joshua tree		7
		Normal	550	Nevada Mormon tea		7
		Unfavorable	300	big galleta		10
				flattop buckwheat		25
Detrital------	Sandy Loam Upland 10-13" p.z. Limy, Skeletal	Favorable	1000	Joshua tree		5
		Normal	600	blackbrush		40
		Unfavorable	200	creosotebush		7
Antares-------	Granitic/Schist Upland 10-13" p.z. Alkaline	Favorable	800	Joshua tree		7
		Normal	550	Nevada Mormon tea		7
		Unfavorable	300	big galleta		10
				flattop buckwheat		25
12:						
Birdsbeak-----	Schist Hills 12-16" p.z.	Favorable	700	Utah juniper		20
		Normal	400	desert ceanothus		15
		Unfavorable	100	sideoats grama		7
				turbinella oak		30

Table 2.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest Understory	Range
			Lb/acre		Pct	Pct
13:						
Bluebird------	Sandy Clay Loam Upland 10-13" p.z. Gravelly	Favorable	800	big galleta		10
		Normal	550	flattop buckwheat		25
		Unfavorable	300	rayless goldenhead		15
Detrital------	Coarse Sandy Loam 10-13" p.z.	Favorable	700	banana yucca		10
		Normal	500	big galleta		20
		Unfavorable	300	black grama		20
				bush muhly		10
				white burrobrush		10
14:						
Bluebird------	Limy Fan 6-10" p.z.	Favorable	500	Joshua tree		6
		Normal	300	big galleta		35
		Unfavorable	100	creosotebush		10
				white bursage		15
Lostman-------	Sandy Loam Upland 6-10" p.z. Limy Subsurface, Gravelly	Favorable	650	big galleta		20
		Normal	350	creosotebush		40
		Unfavorable	50	white bursage		20
15:						
Carrizo-------	Limy Upland 3-6" p.z. Deep	Favorable	200	creosotebush		50
		Normal	100	white bursage		35
		Unfavorable	25			
Carrizo-------	Limy Upland 3-6" p.z. Deep	Favorable	200	creosotebush		50
		Normal	100	white bursage		35
		Unfavorable	25			
16:						
Carrizo-------	Sandy Wash 3-6" p.z.	Favorable	500	creosotebush		25
		Normal	300	white burrobrush		10
		Unfavorable	75	white bursage		25
Riverwash-----	Sandy Wash 3-6" p.z.	Favorable	500	creosotebush		25
		Normal	300	white burrobrush		10
		Unfavorable	75	white bursage		25

Table 2.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest Understory	Range
			Lb/acre		Pct	Pct
17:						
Carrizo-------	Sandy Wash 3-6" p.z.	Favorable	500	creosotebush		25
		Normal	300	white burrobrush		10
		Unfavorable	75	white bursage		25
Riverwash-----	Sandy Wash 3-6" p.z.	Favorable	500	creosotebush		25
		Normal	300	white burrobrush		10
		Unfavorable	75	white bursage		25
18:						
Chuckawalla---	---	Favorable	---			
		Normal	---			
		Unfavorable	---			
Riverbend-----	Limy Upland 3-6" p.z. Deep	Favorable	200	creosotebush		50
		Normal	100	white bursage		35
		Unfavorable	25			
19:						
Circular------	Sandy Loam Upland 6-10" p.z.	Favorable	500	big galleta		40
		Normal	300	rayless goldenhead		20
		Unfavorable	100	white burrobrush		10
Circular------	Loamy Upland 6-10" p.z.	Favorable	---			
		Normal	---			
		Unfavorable	---			
20:						
Circular------	Sandy Loam Upland 6-10" p.z. Limy	Favorable	500	big galleta		35
		Normal	300	fourwing saltbush		10
		Unfavorable	100	shadscale saltbush		10
				winterfat		10
Dusty---------	Loamy Swale 6-10" p.z. Sodic	Favorable	700	alkali sacaton		10
		Normal	450	big galleta		35
		Unfavorable	200	shadscale saltbush		25
21:						
Cod-----------	Sandy Loam Upland 6-10" p.z. Limy Subsurface, Gravelly	Favorable	650	big galleta		20
		Normal	350	creosotebush		40
		Unfavorable	50	white bursage		20

Table 2.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest Understory	Range
			Lb/acre		Pct	Pct
22:						
Cordes--------	Sandy Bottom 12-16" p.z.	Favorable	2000	Arizona sycamore		7
		Normal	1400	Fremont cottonwood		7
		Unfavorable	800	Sporobolus		15
				narrowleaf cottonwood		15
				sideoats grama		7
Manikan-------	Loamy Bottom 12-16" p.z.	Favorable	1500	blue grama		15
		Normal	1200	sideoats grama		20
		Unfavorable	900	western wheatgrass		20
Riverwash-----	Sandy Bottom 12-16" p.z.	Favorable	1500	Arizona sycamore		7
		Normal	1200	Fremont cottonwood		7
		Unfavorable	800	Sporobolus		15
				narrowleaf cottonwood		15
				sideoats grama		7
23:						
Cupel---------	Volcanic Hills 10-13" p.z.	Favorable	900	California juniper		7
		Normal	500	big galleta		10
		Unfavorable	100	blackbrush		7
				flattop buckwheat		15
Rock outcrop--	---	Favorable	---			
		Normal	---			
		Unfavorable	---			
24:						
Cyclopic------	Sandy Loam Upland 10-13" p.z. Fine, Stony	Favorable	800	big galleta		20
		Normal	550	broom snakeweed		10
		Unfavorable	300	flattop buckwheat		15
				turpentine bush		15
25:						
Deluge--------	Limy Upland 6-10" p.z.	Favorable	600	big galleta		10
		Normal	350	creosotebush		20
		Unfavorable	150	white bursage		20
Gotchell------	Limy Upland 6-10" p.z.	Favorable	600	big galleta		10
		Normal	350	creosotebush		20
		Unfavorable	150	white bursage		20

Table 2.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest Understory	Range
			Lb/acre		Pct	Pct
25:						
Sunstroke-----	Limy Upland 6-10" p.z.	Favorable	600	big galleta		10
		Normal	350	creosotebush		20
		Unfavorable	150	white bursage		20
26:						
Detrital------	Limy Upland 10-13" p.z. Deep	Favorable	800	Canotia		7
		Normal	500	banana yucca		7
		Unfavorable	200	big galleta		15
				creosotebush		10
				rayless goldenhead		7
				white burrobrush		10
Bluebird------	Sandy Clay Loam Upland 10-13" p.z. Gravelly	Favorable	800	big galleta		10
		Normal	550	flattop buckwheat		25
		Unfavorable	300	rayless goldenhead		15
27:						
Detrital------	Limy Upland 10-13" p.z. Deep	Favorable	800	Canotia		7
		Normal	500	banana yucca		7
		Unfavorable	200	big galleta		15
				creosotebush		10
				rayless goldenhead		7
				white burrobrush		10
Nealy---------	Limy Upland 10-13" p.z.	Favorable	500	Juniperus		20
		Normal	300	Yucca		10
		Unfavorable	100	broom snakeweed		20
28:						
Detrital------	Sandy Loam Upland 6-10" p.z. Limy Subsurface, Gravelly	Favorable	650	big galleta		20
		Normal	350	creosotebush		40
		Unfavorable	50	white bursage		20
Nickel--------	Sandy Loam Upland 6-10" p.z. Limy Subsurface, Gravelly	Favorable	650	big galleta		20
		Normal	350	creosotebush		40
		Unfavorable	50	white bursage		20

Table 2.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest Understory	Range
			Lb/acre		Pct	Pct
29:						
Detrital------	Sandy Loam Upland 6-10" p.z. Limy Subsurface, Gravelly	Favorable	650	big galleta		20
		Normal	350	creosotebush		40
		Unfavorable	50	white bursage		20
Nickel family-	Sandy Loam Upland 6-10" p.z. Limy Subsurface, Gravelly	Favorable	650	big galleta		20
		Normal	350	creosotebush		40
		Unfavorable	50	white bursage		20
30:						
Detrital------	Sandy Loam Upland 10-13" p.z. Limy, Skeletal	Favorable	1000	Joshua tree		5
		Normal	600	blackbrush		40
		Unfavorable	200	creosotebush		7
Skelon family-	Sandy Loam Upland 10-13" p.z. Limy, Skeletal	Favorable	1000	Joshua tree		5
		Normal	600	blackbrush		40
		Unfavorable	200	creosotebush		7
31:						
Dusty---------	Loamy Swale 6-10" p.z. Sodic	Favorable	700	alkali sacaton		10
		Normal	450	big galleta		35
		Unfavorable	200	shadscale saltbush		25
Kurstan family	Sandy Loam Upland 6-10" p.z. Limy	Favorable	500	big galleta		35
		Normal	300	fourwing saltbush		10
		Unfavorable	100	shadscale saltbush		10
				winterfat		10
32:						
Dutchflat-----	Sandy Loam Upland 6-10" p.z. Fine	Favorable	300	big galleta		35
		Normal	200	white burrobrush		10
		Unfavorable	75			
33:						
Dye-----------	Juniperus osteosperma-Pinus/Purshia stansburiana-Quercus turbinella/Bouteloua curtipendula-Poa fendleriana	Favorable	---	Utah juniper	45	
		Normal	1450	singleleaf pinyon	30	
		Unfavorable	---	turbinella oak	5	

Table 2.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest Understory	Range
			Lb/acre		Pct	Pct
33:						
Tovar---------	Juniperus osteosperma-Pinus/Purshia stansburiana-Quercus turbinella/Bouteloua curtipendula-Poa fendleriana	Favorable	---	Utah juniper	45	
		Normal	1450	singleleaf pinyon	30	
		Unfavorable	---	turbinella oak	5	
Rock outcrop--	---	Favorable	---			
		Normal	---			
		Unfavorable	---			
34:						
Faraway-------	Granitic/Schist Hills 10-13" p.z.	Favorable	1500	Colorado pinyon		10
		Normal	1000	Opuntia		10
		Unfavorable	500	banana yucca		10
				desert ceanothus		20
				desert needlegrass		7
				singleleaf pinyon		10
				turbinella oak		20
Rock outcrop--	Granitic/Schist Hills 10-13" p.z.	Favorable	1500	Colorado pinyon		10
		Normal	1000	Opuntia		10
		Unfavorable	500	banana yucca		10
				desert ceanothus		20
				desert needlegrass		7
				singleleaf pinyon		10
				turbinella oak		20
35:						
Fig-----------	Granitic/Schist Hills 10-13" p.z. Alkaline	Favorable	800	blackbrush		7
		Normal	500	desert needlegrass		10
		Unfavorable	200	flattop buckwheat		25
Blind---------	Sandy Loam Slopes 10-13" p.z. Fine, Skeletal	Favorable	700	Mexican bladdersage		10
		Normal	500	banana yucca		10
		Unfavorable	300	black grama		20
				flattop buckwheat		20
				turbinella oak		20
Nodman--------	Granitic/Schist Hills 10-13" p.z. Alkaline	Favorable	800	blackbrush		10
		Normal	500	desert needlegrass		10
		Unfavorable	200	flattop buckwheat		25

Table 2.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest Understory	Range
			Lb/acre		Pct	Pct
36:						
Filaree-------	Sandy Loam Upland 6-10" p.z.	Favorable	500	big galleta		40
		Normal	300	rayless goldenhead		20
		Unfavorable	100	white burrobrush		10
37:						
Filaree-------	Sandy Loam Upland 6-10" p.z.	Favorable	500	big galleta		40
		Normal	300	rayless goldenhead		20
		Unfavorable	100	white burrobrush		10
Dutchflat-----	Sandy Loam Upland 6-10" p.z. Fine	Favorable	300	big galleta		35
		Normal	200	white burrobrush		10
		Unfavorable	75			
38:						
Garnet--------	Sandy Loam Upland 6-10" p.z. Fine	Favorable	300	big galleta		35
		Normal	200	white burrobrush		10
		Unfavorable	75			
Dutchflat-----	Sandy Loam Upland 6-10" p.z. Fine	Favorable	300	big galleta		35
		Normal	200	white burrobrush		10
		Unfavorable	75			
39:						
Goesling family-------	Loamy Bottom 14-18" p.z.	Favorable	1200	blue grama		50
		Normal	750	broom snakeweed		7
		Unfavorable	300	burrograss		10
				ring muhly		7
40:						
Goldroad------	Granitic Hills 3-6" p.z.	Favorable	350	creosotebush		25
		Normal	225	white brittlebush		10
		Unfavorable	100	white bursage		25
Rock outcrop--	---	Favorable	---			
		Normal	---			
		Unfavorable	---			
41:						
Goldroad------	Granitic Hills 3-6" p.z.	Favorable	350	creosotebush		25
		Normal	225	white brittlebush		10
		Unfavorable	100	white bursage		25

Table 2.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest Understory	Range
			Lb/acre		Pct	Pct
41:						
Rock outcrop--	---	Favorable	---			
		Normal	---			
		Unfavorable	---			
42:						
Gonzales------	Volcanic Hills 12-16" p.z.	Favorable	1200	black grama		10
		Normal	900	blue grama		10
		Unfavorable	700	bottlebrush squirreltail		7
				desert needlegrass		7
				sideoats grama		25
Rock outcrop--	---	Favorable	---			
		Normal	---			
		Unfavorable	---			
43:						
Goodsprings family-------	Sandy Loam Hills 10-13" p.z. Limy, Shallow	Favorable	---			
		Normal	---			
		Unfavorable	---			
44:						
Gotchell------	Limy Slopes 6-10" p.z.	Favorable	400	creosotebush		20
		Normal	250	white bursage		50
		Unfavorable	100			
Sunstroke-----	Limy Slopes 6-10" p.z.	Favorable	400	creosotebush		20
		Normal	250	white bursage		50
		Unfavorable	100			
45:						
Graham--------	Shallow Loamy 12-16" p.z.	Favorable	500	Aristida		10
		Normal	300	Opuntia		7
		Unfavorable	100	Stansbury cliffrose		15
				Utah juniper		10
				black grama		7
				blue grama		7
				broom snakeweed		15

Table 2.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest Understory	Range
			Lb/acre		Pct	Pct
45:						
Arivaca-------	Clay Loam Upland 12-16" p.z.	Favorable	1150	black grama		15
		Normal	950	blue grama		15
		Unfavorable	750	bottlebrush squirreltail		10
				muttongrass		10
				sideoats grama		20
46:						
Graham--------	Volcanic Hills 12-16" p.z.	Favorable	1200	black grama		10
		Normal	900	blue grama		10
		Unfavorable	700	bottlebrush squirreltail		7
				desert needlegrass		7
				sideoats grama		25
Rock outcrop--	---	Favorable	---			
		Normal	---			
		Unfavorable	---			
47:						
Grandwash-----	Juniperus osteosperma/Quercus turbinella-Eriogonum/Bouteloua gracilis-Poa fendleriana	Favorable	---	Eriogonum	5	
		Normal	900	Utah juniper	55	
		Unfavorable	---	broom snakeweed	5	
				narrowleaf penstemon	7	
				turbinella oak	7	
48:						
Greyeagle family-------	Sandy Loam Hills 10-13" p.z. Limy, Skeletal, Shallow, Warm	Favorable	800	Mojave woodyaster		7
		Normal	550	Nevada Mormon tea		7
		Unfavorable	300	blackbrush		25
				creosotebush		7
				ratear crinklemat		7
49:						
Greyeagle family-------	Sandy Loam Hills 10-13" p.z. Limy, Skeletal, Shallow, Warm	Favorable	800	Mojave woodyaster		7
		Normal	550	Nevada Mormon tea		7
		Unfavorable	300	blackbrush		25
				creosotebush		7
				ratear crinklemat		7

Table 2.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest Understory	Range
			Lb/acre		Pct	Pct
50:						
Greyeagle family-------	Sandy Loam Upland 10-13" p.z. Limy, Skeletal, Shallow	Favorable	500	Nevada Mormon tea		7
		Normal	300	blackbrush		40
		Unfavorable	100	creosotebush		10
				white bursage		10
Cyclopic------	Sandy Loam Upland 10-13" p.z. Limy, Skeletal	Favorable	1000	Joshua tree		5
		Normal	600	blackbrush		40
		Unfavorable	200	creosotebush		7
51:						
Greyeagle family-------	Shallow Upland 10-13" p.z.	Favorable	600	Joshua tree		7
		Normal	350	blackbrush		75
		Unfavorable	100			
Skelon family-	Sandy Loam Upland 10-13" p.z. Limy, Skeletal	Favorable	1000	Joshua tree		5
		Normal	600	blackbrush		40
		Unfavorable	200	creosotebush		7
52:						
Greyeagle family-------	Sandy Loam Upland 10-13" p.z. Limy, Skeletal, Shallow	Favorable	500	Nevada Mormon tea		7
		Normal	300	blackbrush		40
		Unfavorable	100	creosotebush		10
				white bursage		10
Skelon family-	Sandy Loam Upland 10-13" p.z. Limy, Skeletal	Favorable	1000	Joshua tree		5
		Normal	600	blackbrush		40
		Unfavorable	200	creosotebush		7
53:						
Gypsids-------	Gypsum Hills 3-6" p.z.	Favorable	350	Indianwheat		10
		Normal	200	creosotebush		15
		Unfavorable	25	desert trumpet buckwheat		10
				pygmy-cedar		25
54:						
Haplogypsids--	Gypsum Hills 3-6" p.z.	Favorable	350	Indianwheat		10
		Normal	200	creosotebush		15
		Unfavorable	25	desert trumpet buckwheat		10
				pygmy-cedar		25

Table 2.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest Understory	Range
			Lb/acre		Pct	Pct
54:						
Haplogypsids--	Gypsum Hills 3-6" p.z.	Favorable	350	Indianwheat		10
		Normal	200	creosotebush		15
		Unfavorable	25	desert trumpet buckwheat		10
				pygmy-cedar		25
55:						
Hassell family	Granitic/Schist Hills 10-13" p.z.	Favorable	1500	Colorado pinyon		10
		Normal	1000	Opuntia		10
		Unfavorable	500	banana yucca		10
				desert ceanothus		20
				desert needlegrass		7
				singleleaf pinyon		10
				turbinella oak		20
Lampshire-----	Granitic/Schist Hills 10-13" p.z.	Favorable	1500	Colorado pinyon		10
		Normal	1000	Opuntia		10
		Unfavorable	500	banana yucca		10
				desert ceanothus		20
				desert needlegrass		7
				singleleaf pinyon		10
				turbinella oak		20
Rock outcrop--	Granitic/Schist Hills 10-13" p.z.	Favorable	1500	Colorado pinyon		10
		Normal	1000	Opuntia		10
		Unfavorable	500	banana yucca		10
				desert ceanothus		20
				desert needlegrass		7
				singleleaf pinyon		10
				turbinella oak		20
56:						
Hindu---------	Limestone Hills 10-14" p.z.	Favorable	600	Utah agave		7
		Normal	400	Utah juniper		10
		Unfavorable	200	blackbrush		65
				slim tridens		5
Rock outcrop--	---	Favorable	---			
		Normal	---			
		Unfavorable	---			

Table 2.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest Understory	Range
			Lb/acre		Pct	Pct
57:						
Hooks family--	Coarse Sandy Loam 10-13" p.z.	Favorable	700	banana yucca		10
		Normal	500	big galleta		20
		Unfavorable	300	black grama		20
				bush muhly		10
				white burrobrush		10
Courtland family-------	Sandy Loam Upland 10-13" p.z. Fine	Favorable	600	Opuntia		10
		Normal	350	big galleta		15
		Unfavorable	100	black grama		7
				burrograss		10
				rayless goldenhead		7
58:						
Hosta family--	Loamy Upland 12-16" p.z.	Favorable	850	black grama		30
		Normal	650	blue grama		15
		Unfavorable	500	bottlebrush squirreltail		7
				muttongrass		7
				sideoats grama		20
59:						
House Mountain family-------	Volcanic Hills 10-13" p.z.	Favorable	900	California juniper		7
		Normal	500	big galleta		10
		Unfavorable	100	blackbrush		7
				flattop buckwheat		15
Calvista family-------	Volcanic Hills 10-13" p.z.	Favorable	900	California juniper		7
		Normal	500	big galleta		10
		Unfavorable	100	blackbrush		7
				flattop buckwheat		15
Rock outcrop--	---	Favorable	---			
		Normal	---			
		Unfavorable	---			
60:						
Huevi---------	Cobbly Limy Upland 3-6" p.z. Deep	Favorable	800	Indianwheat		15
		Normal	500	creosotebush		25
		Unfavorable	150	white brittlebush		15

Table 2.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest Understory	Range
			Lb/acre		Pct	Pct
61:						
Huevi---------	Limy Slopes 3-6" p.z.	Favorable	200	creosotebush		60
		Normal	100	white bursage		15
		Unfavorable	25			
62:						
Huevi---------	Limy Slopes 3-6" p.z.	Favorable	200	creosotebush		60
		Normal	100	white bursage		15
		Unfavorable	25			
63:						
Huevi---------	Limy Upland 3-6" p.z. Deep	Favorable	200	creosotebush		50
		Normal	100	white bursage		35
		Unfavorable	25			
Carrizo-------	Sandy Wash 3-6" p.z.	Favorable	500	creosotebush		25
		Normal	300	white burrobrush		10
		Unfavorable	75	white bursage		25
64:						
Huevi---------	Limy Slopes 3-6" p.z.	Favorable	200	creosotebush		60
		Normal	100	white bursage		15
		Unfavorable	25			
Carrwash------	Breaks 3-6" p.z.	Favorable	350	Ephedra		10
		Normal	200	Krameria		20
		Unfavorable	50	creosotebush		20
				white bursage		35
65:						
Huevi---------	Limy Slopes 3-6" p.z.	Favorable	200	creosotebush		60
		Normal	100	white bursage		15
		Unfavorable	25			
Sunrock-------	Basalt Hills 3-6" p.z.	Favorable	400	creosotebush		40
		Normal	200	white brittlebush		15
		Unfavorable	25	white bursage		25
Rock outcrop--	---	Favorable	---			
		Normal	---			
		Unfavorable	---			

Table 2.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest Understory	Range
			Lb/acre		Pct	Pct
66:						
Hulda---------	Granitic/Schist Hills 10-13" p.z. Alkaline	Favorable	800	blackbrush		7
		Normal	500	desert needlegrass		10
		Unfavorable	200	flattop buckwheat		25
67:						
Hulda---------	Granitic Hills 6-10" p.z.	Favorable	500	blackbrush		15
		Normal	250	creosotebush		15
		Unfavorable	100	flattop buckwheat		7
				white bursage		25
Rock outcrop--	---	Favorable	---			
		Normal	---			
		Unfavorable	---			
68:						
Hulda---------	Granitic/Schist Hills 10-13" p.z. Alkaline	Favorable	800	blackbrush		7
		Normal	500	desert needlegrass		10
		Unfavorable	200	flattop buckwheat		25
Rock outcrop--	Granitic/Schist Hills 10-13" p.z. Alkaline	Favorable	800	blackbrush		7
		Normal	500	desert needlegrass		10
		Unfavorable	200	flattop buckwheat		25
69:						
Ireteba family	Sandy Wash 10-13" p.z.	Favorable	900	catclaw acacia		15
		Normal	550	creosotebush		10
		Unfavorable	200	white burrobrush		35
Arizo---------	Sandy Wash 10-13" p.z.	Favorable	900	catclaw acacia		15
		Normal	550	creosotebush		10
		Unfavorable	200	white burrobrush		35
70:						
Jagerson------	Limy Fan 6-10" p.z.	Favorable	500	Joshua tree		6
		Normal	300	big galleta		35
		Unfavorable	100	creosotebush		10
				white bursage		15

Table 2.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest Understory	Range
			Lb/acre		Pct	Pct
71:						
Jagerson------	Loamy Upland 10-13" p.z. Limy Subsurface, Gravelly	Favorable	600	big galleta		25
		Normal	400	creosotebush		35
		Unfavorable	200			
Nealy---------	Limy Upland 6-10" p.z.	Favorable	600	big galleta		10
		Normal	350	creosotebush		20
		Unfavorable	150	white bursage		20
72:						
Kingtut-------	Shallow Loamy 12-16" p.z.	Favorable	500	Aristida		10
		Normal	300	Opuntia		7
		Unfavorable	100	Stansbury cliffrose		15
				Utah juniper		10
				black grama		7
				blue grama		7
				broom snakeweed		15
Promontory----	Shallow Loamy 12-16" p.z.	Favorable	500	Aristida		10
		Normal	300	Opuntia		7
		Unfavorable	100	Stansbury cliffrose		15
				Utah juniper		10
				black grama		7
				blue grama		7
				broom snakeweed		15
73:						
Kinley--------	Sandy Loam Slopes 10-13" p.z. Limy, Skeletal	Favorable	700	Aristida		20
		Normal	450	Mexican bladdersage		15
		Unfavorable	200	banana yucca		7
				big galleta		7
				black grama		20
				turbinella oak		7
74:						
Kurstan family	Sandy Loam Upland 6-10" p.z. Limy	Favorable	500	big galleta		35
		Normal	300	fourwing saltbush		10
		Unfavorable	100	shadscale saltbush		10
				winterfat		10

Table 2.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest Understory	Range
			Lb/acre		Pct	Pct
74:						
Dusty---------	Loamy Swale 6-10" p.z. Sodic	Favorable	700	alkali sacaton		10
		Normal	450	big galleta		35
		Unfavorable	200	shadscale saltbush		25
75:						
Lampshire-----	Granitic/Schist Hills 10-13" p.z.	Favorable	1500	Colorado pinyon		10
		Normal	1000	Opuntia		10
		Unfavorable	500	banana yucca		10
				desert ceanothus		20
				desert needlegrass		7
				singleleaf pinyon		10
				turbinella oak		20
Rock outcrop--	Granitic/Schist Hills 10-13" p.z.	Favorable	1500	Colorado pinyon		10
		Normal	1000	Opuntia		10
		Unfavorable	500	banana yucca		10
				desert ceanothus		20
				desert needlegrass		7
				singleleaf pinyon		10
				turbinella oak		20
76:						
Lostman-------	Sandy Loam Upland 6-10" p.z. Limy Subsurface, Gravelly	Favorable	650	big galleta		20
		Normal	350	creosotebush		40
		Unfavorable	50	white bursage		20
77:						
Lostman-------	Sandy Loam Upland 6-10" p.z. Limy Subsurface, Gravelly	Favorable	650	big galleta		20
		Normal	350	creosotebush		40
		Unfavorable	50	white bursage		20
78:						
Luzena--------	Juniperus osteosperma/Purshia stansburiana-Quercus turbinella/Poa fendleriana-Elymus elymoides	Favorable	---	Utah juniper	65	
		Normal	1350	big sagebrush	5	
		Unfavorable	---	singleleaf pinyon	15	

Table 2.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest Understory	Range
			Lb/acre		Pct	Pct
78:						
Thunderbird---	Juniperus osteosperma/Purshia stansburiana-Quercus turbinella/Poa fendleriana-Elymus elymoides	Favorable	---	Utah juniper	65	
		Normal	1350	big sagebrush	5	
		Unfavorable	---	singleleaf pinyon	15	
79:						
Lykorly-------	Loamy Upland 13-17" p.z.	Favorable	900	big sagebrush		35
		Normal	600	bottlebrush squirreltail		10
		Unfavorable	400	western wheatgrass		10
80:						
Lykorly-------	Juniperus osteosperma-Pinus monophylla/Artemisia tridentata-Mahonia fremontii/Pascopyrum smithii	Favorable	---	Utah juniper	35	
		Normal	5600	singleleaf pinyon	60	
		Unfavorable	---			
81:						
Manikan-------	Sandy Loam Upland 12-16" p.z.	Favorable	---			
		Normal	---			
		Unfavorable	---			
Nuffel--------	Clay Loam Upland 12-16" p.z.	Favorable	1150	black grama		15
		Normal	950	blue grama		15
		Unfavorable	750	bottlebrush squirreltail		10
				muttongrass		10
				sideoats grama		20
82:						
Mathis family-	Sandy Wash 12-16" p.z.	Favorable	3000	desert willow		70
		Normal	2000			
		Unfavorable	1000			
Riverwash-----	Sandy Wash 12-16" p.z.	Favorable	3000	desert willow		70
		Normal	2000			
		Unfavorable	1000			
83:						
Mayswell------	Basalt Hills 10-13" p.z. Fine	Favorable	500	Mexican bladdersage		20
		Normal	300	blackbrush		45
		Unfavorable	100	rayless brittlebush		10

Table 2.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest Understory	Range
			Lb/acre		Pct	Pct
83:						
Rock outcrop--	---	Favorable	---			
		Normal	---			
		Unfavorable	---			
84:						
Meadview------	Limy Slopes 6-10" p.z.	Favorable	400	creosotebush		20
		Normal	250	white bursage		50
		Unfavorable	100			
85:						
Meadview------	Sandy Loam Upland 10-13" p.z. Limy, Skeletal	Favorable	1000	Joshua tree		5
		Normal	600	blackbrush		40
		Unfavorable	200	creosotebush		7
Yurm family---	Shallow Upland 10-13" p.z.	Favorable	600	Joshua tree		7
		Normal	350	blackbrush		75
		Unfavorable	100			
86:						
Meriwhitica---	Limestone Hills 10-14" p.z.	Favorable	600	Utah agave		7
		Normal	400	Utah juniper		10
		Unfavorable	200	blackbrush		65
				slim tridens		5
Rock outcrop--	---	Favorable	---			
		Normal	---			
		Unfavorable	---			
87:						
Mextank-------	Juniperus osteosperma/Quercus turbinella-Purshia stansburiana/Bouteloua gracilis	Favorable	---			
		Normal	---			
		Unfavorable	---			
88:						
Milkweed------	Juniperus osteosperma-Pinus/Purshia stansburiana-Quercus turbinella/Bouteloua curtipendula-Poa fendleriana	Favorable	---	Utah juniper	45	
		Normal	1450	singleleaf pinyon	30	
		Unfavorable	---	turbinella oak	5	

Table 2.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest Understory	Range
			Lb/acre		Pct	Pct
88:						
Quartermaster-	Juniperus osteosperma-Pinus/Purshia stansburiana-Quercus turbinella/Bouteloua curtipendula-Poa fendleriana	Favorable	---	Utah juniper	45	
		Normal	1450	singleleaf pinyon	30	
		Unfavorable	---	turbinella oak	5	
Buckndoe------	Juniperus osteosperma-Pinus monophylla/Artemisia tridentata-Mahonia fremontii/Pascopyrum smithii	Favorable	---	Utah juniper	35	
		Normal	5600	singleleaf pinyon	60	
		Unfavorable	---			
89:						
Milok---------	Limy Upland 9-13" p.z.	Favorable	1000	Utah juniper		20
		Normal	650	black grama		7
		Unfavorable	300	blue grama		30
				broom snakeweed		20
Pastern-------	Limy Upland 10-14" p.z. Shallow	Favorable	800	Aristida		7
		Normal	500	Hesperostipa		7
		Unfavorable	200	Utah juniper		20
				black grama		15
				blue grama		15
				broom snakeweed		20
90:						
Mutang--------	Granitic/Schist Upland 10-13" p.z. Alkaline	Favorable	800	Joshua tree		7
		Normal	550	Nevada Mormon tea		7
		Unfavorable	300	big galleta		10
				flattop buckwheat		25
Dutchflat-----	Sandy Loam Upland 10-13" p.z. Fine	Favorable	600	Opuntia		10
		Normal	350	big galleta		15
		Unfavorable	100	black grama		7
				burrograss		10
				rayless goldenhead		7
91:						
Mutang--------	Granitic/Schist Upland 10-13" p.z.	Favorable	1500	Eriogonum		10
		Normal	1000	Utah juniper		15
		Unfavorable	500	banana yucca		15
				desert ceanothus		10
				turbinella oak		30

Table 2.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest Understory	Range
			Lb/acre		Pct	Pct
91:						
Wikieup-------	Granitic/Schist Upland 10-13" p.z.	Favorable	1500	Eriogonum		10
		Normal	1000	Utah juniper		15
		Unfavorable	500	banana yucca		15
				desert ceanothus		10
				turbinella oak		30
Rock outcrop--	---	Favorable	---			
		Normal	---			
		Unfavorable	---			
92:						
Nealy---------	Limy Upland 6-10" p.z.	Favorable	600	big galleta		10
		Normal	350	creosotebush		20
		Unfavorable	150	white bursage		20
Shamock family	Limy Upland 6-10" p.z.	Favorable	600	big galleta		10
		Normal	350	creosotebush		20
		Unfavorable	150	white bursage		20
93:						
Nealy---------	Sandy Loam Upland 10-13" p.z. Limy, Skeletal	Favorable	1000	Joshua tree		5
		Normal	600	blackbrush		40
		Unfavorable	200	creosotebush		7
Skelon family-	Sandy Loam Upland 10-13" p.z. Limy, Skeletal	Favorable	1000	Joshua tree		5
		Normal	600	blackbrush		40
		Unfavorable	200	creosotebush		7
Detrital------	Sandy Loam Upland 10-13" p.z. Limy, Skeletal	Favorable	1000	Joshua tree		5
		Normal	600	blackbrush		40
		Unfavorable	200	creosotebush		7
94:						
Nickel family-	Sandy Loam Slopes 10-13" p.z. Gravelly, Warm	Favorable	---			
		Normal	---			
		Unfavorable	---			
Bluebird------	Sandy Loam Slopes 10-13" p.z. Gravelly, Warm	Favorable	---			
		Normal	---			
		Unfavorable	---			

Table 2.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest Understory	Range
			Lb/acre		Pct	Pct
95:						
Nickel--------	Sandy Loam Upland 6-10" p.z. Limy Subsurface, Gravelly	Favorable	650	big galleta		20
		Normal	350	creosotebush		40
		Unfavorable	50	white bursage		20
Skelon family-	Limy Upland 6-10" p.z.	Favorable	600	big galleta		10
		Normal	350	creosotebush		20
		Unfavorable	150	white bursage		20
Detrital------	Sandy Loam Upland 6-10" p.z. Limy Subsurface, Gravelly	Favorable	650	big galleta		20
		Normal	350	creosotebush		40
		Unfavorable	50	white bursage		20
96:						
Nickel family-	Sandy Loam Slopes 10-13" p.z. Limy, Skeletal	Favorable	700	Aristida		20
		Normal	450	Mexican bladdersage		15
		Unfavorable	200	banana yucca		7
				big galleta		7
				black grama		20
				turbinella oak		7
Topawa family-	Sandy Loam Slopes 10-13" p.z. Fine, Skeletal	Favorable	700	Mexican bladdersage		10
		Normal	500	banana yucca		10
		Unfavorable	300	black grama		20
				flattop buckwheat		20
				turbinella oak		20
Eba family----	Clay Loam Upland 10-13" p.z.	Favorable	750	Mexican bladdersage		7
		Normal	325	big galleta		25
		Unfavorable	100	flattop buckwheat		15
97:						
Nodman--------	Granitic/Schist Upland 10-13" p.z. Alkaline	Favorable	800	Joshua tree		7
		Normal	550	Nevada Mormon tea		7
		Unfavorable	300	big galleta		10
				flattop buckwheat		25
Antares-------	Granitic/Schist Upland 10-13" p.z. Alkaline	Favorable	800	Joshua tree		7
		Normal	550	Nevada Mormon tea		7
		Unfavorable	300	big galleta		10
				flattop buckwheat		25

Table 2.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest Understory	Range
			Lb/acre		Pct	Pct
98:						
Nodman--------	Granitic/Schist Upland 10-13" p.z.	Favorable	1500	Eriogonum		10
		Normal	1000	Utah juniper		15
		Unfavorable	500	banana yucca		15
				desert ceanothus		10
				turbinella oak		30
Courtland family-------	Granitic/Schist Upland 10-13" p.z.	Favorable	1500	Eriogonum		10
		Normal	1000	Utah juniper		15
		Unfavorable	500	banana yucca		15
				desert ceanothus		10
				turbinella oak		30
99:						
Nodman--------	Granitic/Schist Hills 10-13" p.z.	Favorable	1500	Colorado pinyon		10
		Normal	1000	Opuntia		10
		Unfavorable	500	banana yucca		10
				desert ceanothus		20
				desert needlegrass		7
				singleleaf pinyon		10
				turbinella oak		20
Rock outcrop--	Granitic/Schist Hills 10-13" p.z.	Favorable	1500	Colorado pinyon		10
		Normal	1000	Opuntia		10
		Unfavorable	500	banana yucca		10
				desert ceanothus		20
				desert needlegrass		7
				singleleaf pinyon		10
				turbinella oak		20
100:						
Nodman--------	Granitic/Schist Hills 10-13" p.z.	Favorable	1500	Colorado pinyon		10
		Normal	1000	Opuntia		10
		Unfavorable	500	banana yucca		10
				desert ceanothus		20
				desert needlegrass		7
				singleleaf pinyon		10
				turbinella oak		20

Table 2.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest Understory	Range
			Lb/acre		Pct	Pct
100:						
Romero family-	Basalt/Schist Hills 10-13" p.z.	Favorable	800	Eriogonum		7
		Normal	550	Opuntia		20
		Unfavorable	300	Pleuraphis		20
				banana yucca		10
				black grama		7
				sideoats grama		7
101:						
Nolam family--	Sandy Loam Upland 10-13" p.z. Fine, Gravelly	Favorable	700	Aristida		10
		Normal	450	Utah juniper		10
		Unfavorable	200	banana yucca		10
				big galleta		15
				black grama		10
Ustalfic Petrocalcids-	Sandy Loam Upland 10-13" p.z. Fine, Gravelly	Favorable	700	Aristida		10
		Normal	450	Utah juniper		10
		Unfavorable	200	banana yucca		10
				big galleta		15
				black grama		10
Caralampi family-------	Sandy Loam Upland 10-13" p.z. Fine, Gravelly	Favorable	700	Aristida		10
		Normal	450	Utah juniper		10
		Unfavorable	200	banana yucca		10
				big galleta		15
				black grama		10
102:						
Ohaco family--	Sandy Loam Upland 6-10" p.z. Fine	Favorable	300	big galleta		35
		Normal	200	white burrobrush		10
		Unfavorable	75			
Bluebird------	Sandy Clay Loam Upland 10-13" p.z. Gravelly	Favorable	800	big galleta		10
		Normal	550	flattop buckwheat		25
		Unfavorable	300	rayless goldenhead		15
103:						
Orejano-------	Sandy Loam Upland 12-16" p.z. Fine, Gravelly	Favorable	---			
		Normal	---			
		Unfavorable	---			

Table 2.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest Understory	Range
			Lb/acre		Pct	Pct
104:						
Pantak family-	Basalt/Schist Hills 10-13" p.z.	Favorable	800	Eriogonum		7
		Normal	550	Opuntia		20
		Unfavorable	300	Pleuraphis		20
				banana yucca		10
				black grama		7
				sideoats grama		7
Taine---------	Basalt/Schist Hills 10-13" p.z.	Favorable	800	Eriogonum		7
		Normal	550	Opuntia		20
		Unfavorable	300	Pleuraphis		20
				banana yucca		10
				black grama		7
				sideoats grama		7
Terino family-	Basalt/Schist Hills 10-13" p.z.	Favorable	800	Eriogonum		7
		Normal	550	Opuntia		20
		Unfavorable	300	Pleuraphis		20
				banana yucca		10
				black grama		7
				sideoats grama		7
105:						
Pastern-------	Limy Upland 10-14" p.z. Shallow	Favorable	800	Aristida		7
		Normal	500	Hesperostipa		7
		Unfavorable	200	Utah juniper		20
				black grama		15
				blue grama		15
				broom snakeweed		20
Strych--------	Limy Upland 9-13" p.z.	Favorable	1000	Utah juniper		20
		Normal	650	black grama		7
		Unfavorable	300	blue grama		30
				broom snakeweed		20
106:						
Peachsprings--	Limy Upland 9-13" p.z.	Favorable	1000	Utah juniper		20
		Normal	650	black grama		7
		Unfavorable	300	blue grama		30
				broom snakeweed		20

Table 2.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest Understory	Range
			Lb/acre		Pct	Pct
106:						
Havasupai-----	Limy Upland 10-14" p.z. Shallow	Favorable	800	Aristida		7
		Normal	500	Hesperostipa		7
		Unfavorable	200	Utah juniper		20
				black grama		15
				blue grama		15
				broom snakeweed		20
107:						
Pearce--------	Limestone Upland 6-10" p.z.	Favorable	400	Nevada Mormon tea		10
		Normal	300	white bursage		40
		Unfavorable	200			
108:						
Pearce--------	Limestone Hills 6-10" p.z.	Favorable	250	Nevada Mormon tea		10
		Normal	150	creosotebush		20
		Unfavorable	75	white bursage		35
Detrital------	Loamy Slopes 6-10" p.z. Limy, Cobbly	Favorable	---			
		Normal	---			
		Unfavorable	---			
Rock outcrop--	---	Favorable	---			
		Normal	---			
		Unfavorable	---			
109:						
Pearce--------	Limestone Hills 6-10" p.z.	Favorable	250	Nevada Mormon tea		10
		Normal	150	creosotebush		20
		Unfavorable	75	white bursage		35
Rock outcrop--	---	Favorable	---			
		Normal	---			
		Unfavorable	---			
110:						
Pedregosa family-------	Limy Upland 10-13" p.z.	Favorable	500	Juniperus		20
		Normal	300	Yucca		10
		Unfavorable	100	broom snakeweed		20

Table 2.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest Understory	Range
			Lb/acre		Pct	Pct
110:						
Tombstone family-------	Limy Upland 10-13" p.z. Deep	Favorable	800	Canotia		7
		Normal	500	banana yucca		7
		Unfavorable	200	big galleta		15
				creosotebush		10
				rayless goldenhead		7
				white burrobrush		10
111:						
Pidineen family-------	Sandy Loam Upland 14-18" p.z. Limy, Gravelly, Shallow	Favorable	---			
		Normal	---			
		Unfavorable	---			
Tricon family-	Shallow Loamy 14-18" p.z.	Favorable	950	black grama		7
		Normal	800	blue grama		20
		Unfavorable	600	bottlebrush squirreltail		7
				muttongrass		7
				needle and thread		20
				sideoats grama		7
112:						
Pits-dumps, mine---------	---	Favorable	---			
		Normal	---			
		Unfavorable	---			
113:						
Playa---------	---	Favorable	---			
		Normal	---			
		Unfavorable	---			
114:						
Prieta--------	Basalt Hills 10-14" p.z. Cobbly	Favorable	600	blackbrush		60
		Normal	450	sideoats grama		7
		Unfavorable	350			
Rock outcrop--	---	Favorable	---			
		Normal	---			
		Unfavorable	---			

Table 2.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest Understory	Range
			Lb/acre		Pct	Pct
115:						
Quagwa--------	Loamy Upland 10-14" p.z.	Favorable	800	Indian ricegrass		7
		Normal	650	black grama		25
		Unfavorable	500	blue grama		25
				bottlebrush squirreltail		7
				galleta		7
				sideoats grama		15
116:						
Razorback-----	Andesite Hills 6-10" p.z. Coarse	Favorable	600	creosotebush		35
		Normal	300	white bursage		30
		Unfavorable	75			
117:						
Razorback-----	Basalt Hills 10-13" p.z. Limy	Favorable	800	black grama		7
		Normal	300	creosotebush		30
		Unfavorable	100	rayless brittlebush		15
				slim tridens		10
Rock outcrop--	---	Favorable	---			
		Normal	---			
		Unfavorable	---			
118:						
Razorback-----	Andesite Hills 6-10" p.z.	Favorable	500	blackbrush		10
		Normal	350	creosotebush		15
		Unfavorable	200	flattop buckwheat		20
				white bursage		20
Rock outcrop--	---	Favorable	---			
		Normal	---			
		Unfavorable	---			
119:						
Rift----------	Loamy Wash 6-10" p.z.	Favorable	500	alkali sacaton		20
		Normal	300	fourwing saltbush		25
		Unfavorable	100	shadscale saltbush		15

Table 2.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest Understory	Range
			Lb/acre		Pct	Pct
120:						
Rift----------	Loamy Wash 6-10" p.z.	Favorable	500	alkali sacaton		20
		Normal	300	fourwing saltbush		25
		Unfavorable	100	shadscale saltbush		15
121:						
Rillino family	Limy Fan 6-10" p.z.	Favorable	500	Joshua tree		6
		Normal	300	big galleta		35
		Unfavorable	100	creosotebush		10
				white bursage		15
Shamock family	Limy Upland 6-10" p.z.	Favorable	600	big galleta		10
		Normal	350	creosotebush		20
		Unfavorable	150	white bursage		20
Dutchflat-----	Sandy Loam Upland 6-10" p.z. Fine	Favorable	300	big galleta		35
		Normal	200	white burrobrush		10
		Unfavorable	75			
122:						
Rock outcrop--	---	Favorable	---			
		Normal	---			
		Unfavorable	---			
Appleseed-----	Limestone Hills 3-6" p.z.	Favorable	125	white brittlebush		65
		Normal	75			
		Unfavorable	25			
123:						
Rock outcrop--	---	Favorable	---			
		Normal	---			
		Unfavorable	---			
Pearce--------	Limestone Hills 6-10" p.z.	Favorable	250	Nevada Mormon tea		10
		Normal	150	creosotebush		20
		Unfavorable	75	white bursage		35

Table 2.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest Understory	Range
			Lb/acre		Pct	Pct
124:						
Rock outcrop--	---	Favorable	---			
		Normal	---			
		Unfavorable	---			
Razorback-----	Andesite Hills 6-10" p.z.	Favorable	500	blackbrush		10
		Normal	350	creosotebush		15
		Unfavorable	200	flattop buckwheat		20
				white bursage		20
125:						
Rock outcrop--	---	Favorable	---			
		Normal	---			
		Unfavorable	---			
Torriorthents-	Sedimentary Cliffs 10-13" p.z.	Favorable	---			
		Normal	---			
		Unfavorable	---			
126:						
Rock outcrop--	---	Favorable	---			
		Normal	---			
		Unfavorable	---			
Torriorthents-	Sedimentary Cliffs 10-14" p.z.	Favorable	---			
		Normal	---			
		Unfavorable	---			
127:						
Rock outcrop--	Granitic Upland 12-16" p.z.	Favorable	1000	Utah juniper		10
		Normal	700	black grama		7
		Unfavorable	300	broom snakeweed		7
				desert ceanothus		10
				pointleaf manzanita		10
				turbinella oak		25

Table 2.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest Understory	Range
			Lb/acre		Pct	Pct
127:						
Valena--------	Granitic Upland 12-16" p.z.	Favorable	1000	Utah juniper		10
		Normal	700	black grama		7
		Unfavorable	300	broom snakeweed		7
				desert ceanothus		10
				pointleaf manzanita		10
				turbinella oak		25
Kopie family--	Granitic Upland 12-16" p.z.	Favorable	1000	Utah juniper		10
		Normal	700	black grama		7
		Unfavorable	300	broom snakeweed		7
				desert ceanothus		10
				pointleaf manzanita		10
				turbinella oak		25
128:						
Rolie---------	Limy Upland 9-13" p.z.	Favorable	1000	Utah juniper		20
		Normal	650	black grama		7
		Unfavorable	300	blue grama		30
				broom snakeweed		20
Dean----------	Limy Upland 10-14" p.z. Shallow	Favorable	800	Aristida		7
		Normal	500	Hesperostipa		7
		Unfavorable	200	Utah juniper		20
				black grama		15
				blue grama		15
				broom snakeweed		20
129:						
Romero--------	Granitic Hills 12-16" p.z.	Favorable	1500	Colorado pinyon		3
		Normal	1000	Eriogonum		10
		Unfavorable	500	Utah juniper		15
				singleleaf pinyon		4
				turbinella oak		30

Table 2.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest Understory	Range
			Lb/acre		Pct	Pct
129:						
Chiricahua----	Granitic Hills 12-16" p.z.	Favorable	1500	Colorado pinyon		3
		Normal	1000	Eriogonum		10
		Unfavorable	500	Utah juniper		15
				singleleaf pinyon		4
				turbinella oak		30
Rock outcrop--	Granitic/Schist Upland 10-13" p.z.	Favorable	1500	Colorado pinyon		3
		Normal	1000	Eriogonum		10
		Unfavorable	500	Utah juniper		15
				singleleaf pinyon		4
				turbinella oak		30
130:						
Romero--------	Granitic Hills 12-16" p.z.	Favorable	---			
		Normal	---			
		Unfavorable	---			
Lampshire-----	Granitic Hills 12-16" p.z.	Favorable	---			
		Normal	---			
		Unfavorable	---			
Rock outcrop--	Granitic/Schist Hills 12-16" p.z. Paralithic	Favorable	---			
		Normal	---			
		Unfavorable	---			
131:						
Rositas-------	Sandy Upland 3-6" p.z.	Favorable	900	big galleta		45
		Normal	550			
		Unfavorable	100			
132:						
Shortbread----	Sandy Upland 6-10" p.z.	Favorable	600	Sporobolus		10
		Normal	400	big galleta		60
		Unfavorable	250	white burrobrush		15
133:						
Shortbread----	Sandy Upland 6-10" p.z.	Favorable	600	Sporobolus		10
		Normal	400	big galleta		60
		Unfavorable	250	white burrobrush		15

Table 2.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest Understory	Range
			Lb/acre		Pct	Pct
133:						
Kurstan family	Sandy Loam Upland 6-10" p.z. Limy	Favorable	500	big galleta		35
		Normal	300	fourwing saltbush		10
		Unfavorable	100	shadscale saltbush		10
				winterfat		10
Dusty---------	Loamy Swale 6-10" p.z. Sodic	Favorable	700	alkali sacaton		10
		Normal	450	big galleta		35
		Unfavorable	200	shadscale saltbush		25
134:						
Skelon family-	Sandy Loam Upland 10-13" p.z. Limy, Skeletal	Favorable	1000	Joshua tree		5
		Normal	600	blackbrush		40
		Unfavorable	200	creosotebush		7
Greyeagle family-------	Sandy Loam Upland 10-13" p.z. Limy, Skeletal, Shallow	Favorable	500	Nevada Mormon tea		7
		Normal	300	blackbrush		40
		Unfavorable	100	creosotebush		10
				white bursage		10
Detrital------	Sandy Loam Upland 10-13" p.z. Limy, Skeletal	Favorable	1000	Joshua tree		5
		Normal	600	blackbrush		40
		Unfavorable	200	creosotebush		7
135:						
Skelon family-	Limy Upland 6-10" p.z.	Favorable	600	big galleta		10
		Normal	350	creosotebush		20
		Unfavorable	150	white bursage		20
Pinaleno family-------	Limy Fan 6-10" p.z.	Favorable	500	Joshua tree		6
		Normal	300	big galleta		35
		Unfavorable	100	creosotebush		10
				white bursage		15
136:						
Storybook-----	Sandy Loam Upland 6-10" p.z. Limy Subsurface, Gravelly	Favorable	650	big galleta		20
		Normal	350	creosotebush		40
		Unfavorable	50	white bursage		20

Table 2.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest Understory	Range
			Lb/acre		Pct	Pct
137:						
Stronghold family-------	Sandy Loam Upland 10-13" p.z. Limy Subsurface	Favorable	800	Aristida		15
		Normal	600	Krameria		7
		Unfavorable	400	Utah juniper		15
				banana yucca		10
				big galleta		15
				black grama		15
McAllister family-------	Sandy Loam Upland 10-13" p.z. Limy Subsurface, Fine, Gravelly	Favorable	900	Gutierrezia		7
		Normal	600	banana yucca		10
		Unfavorable	300	big galleta		25
				black grama		25
138:						
Sunrock-------	Volcanic Hills 3-6" p.z.	Favorable	700	creosotebush		40
		Normal	300	white brittlebush		25
		Unfavorable	25	white bursage		15
139:						
Sunrock-------	Volcanic Hills 3-6" p.z.	Favorable	700	creosotebush		40
		Normal	300	white brittlebush		25
		Unfavorable	25	white bursage		15
Rock outcrop--	---	Favorable	---			
		Normal	---			
		Unfavorable	---			
140:						
Superstition family-------	Breaks 3-6" p.z.	Favorable	350	Ephedra		10
		Normal	200	Krameria		10
		Unfavorable	50	creosotebush		20
				white bursage		35
Carrwash------	Breaks 3-6" p.z.	Favorable	350	Ephedra		10
		Normal	200	Krameria		10
		Unfavorable	50	creosotebush		20
				white bursage		35

Table 2.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest Understory	Range
			Lb/acre		Pct	Pct
141:						
Taine---------	Juniperus osteosperma/Yucca baccata-Ephedra viridis/Bouteloua curtipendula-Pleuraphis jamesii	Favorable	---	Aristida	5	
		Normal	650	Utah juniper	35	
		Unfavorable	---	blue grama	5	
				broom snakeweed	5	
				sideoats grama	15	
142:						
Thimble-------	Juniperus osteosperma-Pinus edulis/Ceanothus greggii-Purshia stansburiana/Poa fendleriana	Favorable	---			
		Normal	---			
		Unfavorable	---			
Rock outcrop--	---	Favorable	---			
		Normal	---			
		Unfavorable	---			
143:						
Tombstone family-------	Sandy Loam Slopes 10-13" p.z. Limy, Skeletal	Favorable	700	Aristida		20
		Normal	450	Mexican bladdersage		15
		Unfavorable	200	banana yucca		7
				big galleta		7
				black grama		20
				turbinella oak		7
Caralampi family-------	Sandy Loam Slopes 10-13" p.z. Fine, Skeletal	Favorable	700	Mexican bladdersage		10
		Normal	500	banana yucca		10
		Unfavorable	300	black grama		20
				flattop buckwheat		20
				turbinella oak		20
Nolam family--	Sandy Loam Slopes 10-13" p.z. Limy, Fine, Gravelly	Favorable	600	Aristida		7
		Normal	400	Canotia		10
		Unfavorable	200	Mexican bladdersage		35
				big galleta		7
				black grama		7
144:						
Torriorthents-	Breaks 6-10" p.z.	Favorable	350	Nevada Mormon tea		10
		Normal	250	creosotebush		15
		Unfavorable	100	white bursage		25

Table 2.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest Understory	Range
			Lb/acre		Pct	Pct
145:						
Torriorthents-	Gypsum Upland 3-6" p.z.	Favorable	---			
		Normal	---			
		Unfavorable	---			
Haplocambids--	Gypsum Upland 3-6" p.z.	Favorable	---			
		Normal	---			
		Unfavorable	---			
146:						
Torriorthents-	Volcanic Hills 3-6" p.z.	Favorable	700	creosotebush		40
		Normal	300	white brittlebush		25
		Unfavorable	25	white bursage		15
Rock outcrop--	---	Favorable	---			
		Normal	---			
		Unfavorable	---			
147:						
Tovar---------	Juniperus osteosperma/Quercus turbinella-Eriogonum/Bouteloua gracilis-Poa fendleriana	Favorable	---	Eriogonum	5	
		Normal	900	Utah juniper	55	
		Unfavorable	---	broom snakeweed	5	
				narrowleaf penstemon	7	
				turbinella oak	7	
Grandwash-----	Juniperus osteosperma/Quercus turbinella-Eriogonum/Bouteloua gracilis-Poa fendleriana	Favorable	---	Eriogonum	5	
		Normal	900	Utah juniper	55	
		Unfavorable	---	broom snakeweed	5	
				narrowleaf penstemon	7	
				turbinella oak	7	
148:						
Truxton-------	Loamy Bottom 10-14" p.z.	Favorable	900	blue grama		25
		Normal	550	broom snakeweed		7
		Unfavorable	200	burrograss		45
Truxton-------	Loamy Bottom 10-14" p.z.	Favorable	900	blue grama		25
		Normal	550	broom snakeweed		7
		Unfavorable	200	burrograss		45

Table 2.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest Understory	Range
			Lb/acre		Pct	Pct
149:						
Tumarion------	Limy Upland 10-13" p.z.	Favorable	500	Juniperus		20
		Normal	300	Yucca		10
		Unfavorable	100	broom snakeweed		20
150:						
Tumarion------	Loamy Slopes 10-13" p.z. Cobbly	Favorable	800	black grama		7
		Normal	300	creosotebush		30
		Unfavorable	100	rayless brittlebush		15
				slim tridens		10
Nickel family-	Basalt Hills 10-13" p.z. Limy	Favorable	600	big galleta		7
		Normal	400	bush muhly		7
		Unfavorable	200	creosotebush		50
151:						
Tumarion------	Basalt Hills 10-13" p.z. Limy	Favorable	800	black grama		7
		Normal	300	creosotebush		30
		Unfavorable	100	rayless brittlebush		15
				slim tridens		10
Nickel family-	Loamy Slopes 10-13" p.z. Cobbly	Favorable	600	big galleta		7
		Normal	400	bush muhly		7
		Unfavorable	200	creosotebush		50
152:						
Tyro----------	Sandy Loam Hills 3-6" p.z. Limy, Gravelly, Shallow	Favorable	650	creosotebush		50
		Normal	300			
		Unfavorable	100			
153:						
Tyro----------	Sandy Loam Hills 3-6" p.z. Limy, Gravelly, Shallow	Favorable	650	creosotebush		50
		Normal	300			
		Unfavorable	100			
154:						
Tyro----------	Basalt Upland 3-6" p.z.	Favorable	200	creosotebush		55
		Normal	100	white bursage		20
		Unfavorable	25			

Table 2.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest Understory	Range
			Lb/acre		Pct	Pct
154:						
Sunrock-------	Basalt Upland 3-6" p.z.	Favorable	200	creosotebush		55
		Normal	100	white bursage		20
		Unfavorable	25			
155:						
Urban land----	---	Favorable	---			
		Normal	---			
		Unfavorable	---			
Calvista family-------	Volcanic Hills 10-13" p.z.	Favorable	900	California juniper		7
		Normal	500	big galleta		10
		Unfavorable	100	blackbrush		7
				flattop buckwheat		15
156:						
Ustorthents---	Sedimentary Cliffs 13-17" p.z.	Favorable	700	Colorado pinyon		10
		Normal	500	Utah juniper		10
		Unfavorable	300	black grama		7
				desert needlegrass		20
				sideoats grama		15
Rock outcrop--	---	Favorable	---			
		Normal	---			
		Unfavorable	---			
157:						
Valena--------	Granitic Upland 12-16" p.z.	Favorable	1000	Utah juniper		10
		Normal	700	black grama		7
		Unfavorable	300	broom snakeweed		7
				desert ceanothus		10
				pointleaf manzanita		10
				turbinella oak		25
Carri---------	Granitic Upland 12-16" p.z.	Favorable	1000	Utah juniper		10
		Normal	700	black grama		7
		Unfavorable	300	broom snakeweed		7
				desert ceanothus		10
				pointleaf manzanita		10
				turbinella oak		25

Table 2.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest Understory	Range
			Lb/acre		Pct	Pct
158:						
Valena--------	Granitic Upland 12-16" p.z.	Favorable	1000	Utah juniper		10
		Normal	700	black grama		7
		Unfavorable	300	broom snakeweed		7
				desert ceanothus		10
				pointleaf manzanita		10
				turbinella oak		25
Rock outcrop--	Granitic Upland 12-16" p.z.	Favorable	1000	Utah juniper		10
		Normal	700	black grama		7
		Unfavorable	300	broom snakeweed		7
				desert ceanothus		10
				pointleaf manzanita		10
				turbinella oak		25
Carri family--	Sandy Loam Upland 12-16" p.z.	Favorable	---	pointleaf manzanita		10
		Normal	---			
		Unfavorable	---			
159:						
Vekol family--	Sandy Loam Upland 10-13" p.z. Fine	Favorable	600	Opuntia		10
		Normal	350	big galleta		15
		Unfavorable	100	black grama		7
				burrograss		10
				rayless goldenhead		7
160:						
Vekol family--	Clayey Upland 10-13" p.z.	Favorable	800	banana yucca		15
		Normal	400	big galleta		50
		Unfavorable	200	tobosa		10
				white burrobrush		8
161:						
Vekol family--	Clay Loam Upland 6-10" p.z.	Favorable	450	creosotebush		25
		Normal	300	white bursage		20
		Unfavorable	150			
Whitehills----	Limy Upland 6-10" p.z.	Favorable	600	big galleta		10
		Normal	350	creosotebush		20
		Unfavorable	150	white bursage		20

Table 2.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest Understory	Range
			Lb/acre		Pct	Pct
162:						
Vock----------	Granitic/Schist Hills 10-13" p.z.	Favorable	1500	Colorado pinyon		10
		Normal	1000	Opuntia		10
		Unfavorable	500	banana yucca		10
				desert ceanothus		20
				desert needlegrass		7
				singleleaf pinyon		10
				turbinella oak		20
Elements------	Sandy Loam Slopes 10-13" p.z. Fine, Skeletal	Favorable	700	Mexican bladdersage		10
		Normal	500	banana yucca		10
		Unfavorable	300	black grama		20
				flattop buckwheat		20
				turbinella oak		20
Rock outcrop--	Granitic/Schist Hills 10-13" p.z.	Favorable	1500	Colorado pinyon		10
		Normal	1000	Opuntia		10
		Unfavorable	500	banana yucca		10
				desert ceanothus		20
				desert needlegrass		7
				singleleaf pinyon		10
				turbinella oak		20
163:						
Vock----------	Pinus monophylla/Quercus turbinella-Ceanothus greggii/Poa fendleriana-Achnatherum speciosum	Favorable	---	singleleaf pinyon	80	
		Normal	2100	turbinella oak	10	
		Unfavorable	---			
Elements------	Pinus monophylla/Quercus turbinella-Ceanothus greggii/Poa fendleriana-Achnatherum speciosum	Favorable	---	singleleaf pinyon	80	
		Normal	2100	turbinella oak	10	
		Unfavorable	---			
Rock outcrop--	---	Favorable	---			
		Normal	---			
		Unfavorable	---			

Table 2.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest Understory	Range
			Lb/acre		Pct	Pct
164:						
Water---	---	Favorable	---			
		Normal	---			
		Unfavorable	---			
165:						
White House---	Sandy Loam Upland 10-13" p.z.	Favorable	600	Opuntia		10
	Fine	Normal	350	big galleta		15
		Unfavorable	100	black grama		7
				burrograss		10
				rayless goldenhead		7
166:						
White House family---	Sandy Loam Upland 10-13" p.z. Fine, Gravelly	Favorable	700	Aristida		10
		Normal	450	Utah juniper		10
		Unfavorable	200	banana yucca		10
				big galleta		15
				black grama		10
167:						
Whitehills---	Limy Upland 6-10" p.z.	Favorable	600	big galleta		10
		Normal	350	creosotebush		20
		Unfavorable	150	white bursage		20
168:						
Wodomont---	Pinus edulis-Juniperus osteosperma/Purshia stansburiana-Yucca baccata/Bouteloua curtipendula-Bouteloua gracilis	Favorable	---	Colorado pinyon	10	
		Normal	1100	Stansbury cliffrose	5	
		Unfavorable	---	Utah juniper	30	
				broom snakeweed	5	
				singleleaf pinyon	25	
Kydestea---	Pinus edulis-Juniperus osteosperma/Purshia stansburiana-Yucca baccata/Bouteloua curtipendula-Bouteloua gracilis	Favorable	---	Colorado pinyon	10	
		Normal	1100	Stansbury cliffrose	5	
		Unfavorable	---	Utah juniper	30	
				broom snakeweed	5	
				singleleaf pinyon	25	

Table 2.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest Understory	Range
			Lb/acre		Pct	Pct
169:						
Wodomont------	Juniperus osteosperma-Pinus/Purshia stansburiana-Gutierrezia sarothrae/Bouteloua curtipendula-Bouteloua gracilis	Favorable	---	Colorado pinyon	15	
		Normal	1400	Stansbury cliffrose	5	
		Unfavorable	---	Utah juniper	30	
				broom snakeweed	5	
				sideoats grama	5	
				singleleaf pinyon	15	
Metuck--------	Juniperus osteosperma-Pinus/Purshia stansburiana-Gutierrezia sarothrae/Bouteloua curtipendula-Bouteloua gracilis	Favorable	---	Colorado pinyon	15	
		Normal	1400	Stansbury cliffrose	5	
		Unfavorable	---	Utah juniper	30	
				broom snakeweed	5	
				sideoats grama	5	
				singleleaf pinyon	15	
Rock outcrop--	---	Favorable	---			
		Normal	---			
		Unfavorable	---			
170:						
Wodomont------	Pinus edulis-Juniperus osteosperma/Purshia stansburiana-Yucca baccata/Bouteloua curtipendula-Bouteloua gracilis	Favorable	---	Colorado pinyon	10	
		Normal	1100	Stansbury cliffrose	5	
		Unfavorable	---	Utah juniper	30	
				broom snakeweed	5	
				singleleaf pinyon	25	
Rock outcrop--	---	Favorable	---			
		Normal	---			
		Unfavorable	---			
171:						
Yahana family-	Saline Bottom 3-6" p.z.	Favorable	4000	arrowweed		40
		Normal	2500	honey mesquite		30
		Unfavorable	1500			
172:						
Zibate family-	Volcanic Hills 10-13" p.z.	Favorable	900	California juniper		7
		Normal	500	big galleta		10
		Unfavorable	100	blackbrush		7
				flattop buckwheat		15

Table 2.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest Understory	Range
			Lb/acre		Pct	Pct
173:						
Zibate family-	Volcanic Hills 10-13" p.z.	Favorable	900	California juniper		7
		Normal	500	big galleta		10
		Unfavorable	100	blackbrush		7
				flattop buckwheat		15
174:						
Zibate family-	Volcanic Hills 10-13" p.z.	Favorable	900	California juniper		7
		Normal	500	big galleta		10
		Unfavorable	100	blackbrush		7
				flattop buckwheat		15
Dutchflat-----	Sandy Loam Upland 10-13" p.z. Fine	Favorable	600	Opuntia		10
		Normal	350	big galleta		15
		Unfavorable	100	black grama		7
				burrograss		10
				rayless goldenhead		7
Tumarion------	Limy Upland 10-13" p.z.	Favorable	500	Juniperus		15
		Normal	300	Yucca		10
		Unfavorable	100	broom snakeweed		20

Table 3.--Forestland Productivity

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber	
			cu ft/ac	
1:				
Alko family	---	---	---	---
2:				
Alko family	---	---	---	---
3:				
Appleseed	---	---	---	---
Huevi	---	---	---	---
4:				
Aridic Argiustolls	---	---	---	---
Lithic Haplustolls	---	---	---	---
5:				
Arizo	---	---	---	---
Detrital	---	---	---	---
Nickel	---	---	---	---
6:				
Arizo	---	---	---	---
Franconia	---	---	---	---
Riverwash	---	---	---	---
7:				
Arizo	---	---	---	---
Riverwash	---	---	---	---
8:				
Arizo	---	---	---	---
Riverwash	---	---	---	---
9:				
Arizo	---	---	---	---
Riverwash	---	---	---	---
10:				
Arizo	---	---	---	---
Riverwash	---	---	---	---
11:				
Azure	---	---	---	---

Table 3.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber	
			cu ft/ac	
11:				
Detrital	---	---	---	---
Antares	---	---	---	---
12:				
Birdsbeak	---	---	---	---
13:				
Bluebird	---	---	---	---
Detrital	---	---	---	---
14:				
Bluebird	---	---	---	---
Lostman	---	---	---	---
15:				
Carrizo	---	---	---	---
Carrizo, rarely flooded	---	---	---	---
16:				
Carrizo	---	---	---	---
Riverwash	---	---	---	---
17:				
Carrizo	---	---	---	---
Riverwash	---	---	---	---
18:				
Chuckawalla	---	---	---	---
Riverbend	---	---	---	---
19:				
Circular	---	---	---	---
Circular	---	---	---	---
20:				
Circular	---	---	---	---
Dusty	---	---	---	---
21:				
Cod	---	---	---	---

Table 3.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber	
			cu ft/ac	
22:				
Cordes	---	---	---	---
Manikan	---	---	---	---
Riverwash	---	---	---	---
23:				
Cupel	---	---	---	---
Rock outcrop	---	---	---	---
24:				
Cyclopic	---	---	---	---
25:				
Deluge	---	---	---	---
Gotchell	---	---	---	---
Sunstroke	---	---	---	---
26:				
Detrital	---	---	---	---
Bluebird	---	---	---	---
27:				
Detrital	---	---	---	---
Nealy	---	---	---	---
28:				
Detrital	---	---	---	---
Nickel	---	---	---	---
29:				
Detrital	---	---	---	---
Nickel family	---	---	---	---
30:				
Detrital	---	---	---	---
Skelon family	---	---	---	---
31:				
Dusty	---	---	---	---
Kurstan family	---	---	---	---

Table 3.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber	
			cu ft/ac	
32:				
Dutchflat	---	---	---	---
33:				
Dye	singleleaf pinyon	65	10	singleleaf pinyon,
	Utah juniper	65	10	Utah juniper
Tovar	singleleaf pinyon	65	10	singleleaf pinyon,
	Utah juniper	65	10	Utah juniper
Rock outcrop	---	---	---	---
34:				
Faraway	---	---	---	---
Rock outcrop	---	---	---	---
35:				
Fig	---	---	---	---
Blind	---	---	---	---
Nodman	---	---	---	---
36:				
Filaree	---	---	---	---
37:				
Filaree	---	---	---	---
Dutchflat	---	---	---	---
38:				
Garnet	---	---	---	---
Dutchflat	---	---	---	---
39:				
Goesling family	---	---	---	---
40:				
Goldroad	---	---	---	---
Rock outcrop	---	---	---	---
41:				
Goldroad	---	---	---	---
Rock outcrop	---	---	---	---
42:				
Gonzales	---	---	---	---
Rock outcrop	---	---	---	---

Table 3.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber	
			cu ft/ac	
43:				
Goodsprings family	---	---	---	---
44:				
Gotchell	---	---	---	---
Sunstroke	---	---	---	---
45:				
Graham	---	---	---	---
Arivaca	---	---	---	---
46:				
Graham	---	---	---	---
Rock outcrop	---	---	---	---
47:				
Grandwash	Utah juniper	42	12	Utah juniper
48:				
Greyeagle family	---	---	---	---
49:				
Greyeagle family	---	---	---	---
50:				
Greyeagle family	---	---	---	---
Cyclopic	---	---	---	---
51:				
Greyeagle family	---	---	---	---
Skelon family	---	---	---	---
52:				
Greyeagle family	---	---	---	---
Skelon family	---	---	---	---
53:				
Gypsids	---	---	---	---
54:				
Haplogypsids, eroded	---	---	---	---
Haplogypsids	---	---	---	---

Table 3.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber	
			cu ft/ac	
55:				
Hassell family	---	---	---	---
Lampshire	---	---	---	---
Rock outcrop	---	---	---	---
56:				
Hindu	---	---	---	---
Rock outcrop	---	---	---	---
57:				
Hooks family	---	---	---	---
Courtland family	---	---	---	---
58:				
Hosta family	---	---	---	---
59:				
House Mountain family	---	---	---	---
Calvista family	---	---	---	---
Rock outcrop	---	---	---	---
60:				
Huevi	---	---	---	---
61:				
Huevi	---	---	---	---
62:				
Huevi	---	---	---	---
63:				
Huevi	---	---	---	---
Carrizo	---	---	---	---
64:				
Huevi	---	---	---	---
Carrwash	---	---	---	---
65:				
Huevi	---	---	---	---
Sunrock	---	---	---	---
Rock outcrop	---	---	---	---

Table 3.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber	
			cu ft/ac	
66:				
Hulda	---	---	---	---
67:				
Hulda	---	---	---	---
Rock outcrop	---	---	---	---
68:				
Hulda	---	---	---	---
Rock outcrop	---	---	---	---
69:				
Ireteba family	---	---	---	---
Arizo	---	---	---	---
70:				
Jagerson	---	---	---	---
71:				
Jagerson	---	---	---	---
Nealy	---	---	---	---
72:				
Kingtut	---	---	---	---
Promontory	---	---	---	---
73:				
Kinley	---	---	---	---
74:				
Kurstan family	---	---	---	---
Dusty	---	---	---	---
75:				
Lampshire	---	---	---	---
Rock outcrop	---	---	---	---
76:				
Lostman	---	---	---	---
77:				
Lostman	---	---	---	---

Table 3.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber	
			cu ft/ac	
78:				
Luzena	Utah juniper	63	19	Utah juniper
Thunderbird	Utah juniper	63	19	Utah juniper
79:				
Lykorly	---	---	---	---
80:				
Lykorly	singleleaf pinyon	77	11	singleleaf pinyon,
	Utah juniper	77	12	Utah juniper
81:				
Manikan	---	---	---	---
Nuffel	---	---	---	---
82:				
Mathis family	---	---	---	---
Riverwash	---	---	---	---
83:				
Mayswell	---	---	---	---
Rock outcrop	---	---	---	---
84:				
Meadview	---	---	---	---
85:				
Meadview	---	---	---	---
Yurm family	---	---	---	---
86:				
Meriwhitica	---	---	---	---
Rock outcrop	---	---	---	---
87:				
Mextank	---	---	---	---
88:				
Milkweed	singleleaf pinyon	65	10	singleleaf pinyon,
	Utah juniper	65	10	Utah juniper
Quartermaster	singleleaf pinyon	65	10	singleleaf pinyon,
	Utah juniper	65	10	Utah juniper
Buckndoe	singleleaf pinyon	77	11	singleleaf pinyon,
	Utah juniper	77	12	Utah juniper

Table 3.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber	
			cu ft/ac	
89:				
Milok	---	---	---	---
Pastern	---	---	---	---
90:				
Mutang	---	---	---	---
Dutchflat	---	---	---	---
91:				
Mutang	---	---	---	---
Wikieup	---	---	---	---
Rock outcrop	---	---	---	---
92:				
Nealy	---	---	---	---
Shamock family	---	---	---	---
93:				
Nealy	---	---	---	---
Skelon family	---	---	---	---
Detrital	---	---	---	---
94:				
Nickel family	---	---	---	---
Bluebird	---	---	---	---
95:				
Nickel	---	---	---	---
Skelon family	---	---	---	---
Detrital	---	---	---	---
96:				
Nickel family	---	---	---	---
Topawa family	---	---	---	---
Eba family	---	---	---	---
97:				
Nodman	---	---	---	---
Antares	---	---	---	---

Table 3.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber	
			cu ft/ac	
98:				
Nodman	---	---	---	---
Courtland family	---	---	---	---
99:				
Nodman	---	---	---	---
Rock outcrop	---	---	---	---
100:				
Nodman	---	---	---	---
Romero family	---	---	---	---
101:				
Nolam family	---	---	---	---
Ustalfic Petrocalcids	---	---	---	---
Caralampi family	---	---	---	---
102:				
Ohaco family	---	---	---	---
Bluebird	---	---	---	---
103:				
Orejano	---	---	---	---
104:				
Pantak family	---	---	---	---
Taine	---	---	---	---
Terino family	---	---	---	---
105:				
Pastern	---	---	---	---
Strych	---	---	---	---
106:				
Peachsprings	---	---	---	---
Havasupai	---	---	---	---
107:				
Pearce	---	---	---	---

Table 3.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber	
			cu ft/ac	
108:				
Pearce	---	---	---	---
Detrital	---	---	---	---
Rock outcrop	---	---	---	---
109:				
Pearce	---	---	---	---
Rock outcrop	---	---	---	---
110:				
Pedregosa family	---	---	---	---
Tombstone family	---	---	---	---
111:				
Pidineen family	---	---	---	---
Tricon family	---	---	---	---
112:				
Pits-dumps, mine	---	---	---	---
113:				
Playa	---	---	---	---
114:				
Prieta	---	---	---	---
Rock outcrop	---	---	---	---
115:				
Quagwa	---	---	---	---
116:				
Razorback	---	---	---	---
117:				
Razorback	---	---	---	---
Rock outcrop	---	---	---	---
118:				
Razorback	---	---	---	---
Rock outcrop	---	---	---	---
119:				
Rift	---	---	---	---

Table 3.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber	
			cu ft/ac	
120:				
Rift	---	---	---	---
121:				
Rillino family	---	---	---	---
Shamock family	---	---	---	---
Dutchflat	---	---	---	---
122:				
Rock outcrop	---	---	---	---
Appleseed	---	---	---	---
123:				
Rock outcrop	---	---	---	---
Pearce	---	---	---	---
124:				
Rock outcrop	---	---	---	---
Razorback	---	---	---	---
125:				
Rock outcrop	---	---	---	---
Torriorthents	---	---	---	---
126:				
Rock outcrop	---	---	---	---
Torriorthents	---	---	---	---
127:				
Rock outcrop	---	---	---	---
Valena	---	---	---	---
Kopie family	---	---	---	---
128:				
Rolie	singleleaf pinyon---	---	0	singleleaf pinyon,
	Utah juniper--------	38	0	Utah juniper
Dean	singleleaf pinyon---	---	0	singleleaf pinyon,
	Utah juniper--------	45	0	Utah juniper

Table 3.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber	
			cu ft/ac	
129:				
Romero	---	---	---	---
Chiricahua	---	---	---	---
Rock outcrop	---	---	---	---
130:				
Romero	---	---	---	---
Lampshire	---	---	---	---
Rock outcrop	---	---	---	---
131:				
Rositas	---	---	---	---
132:				
Shortbread	---	---	---	---
133:				
Shortbread	---	---	---	---
Kurstan family	---	---	---	---
Dusty	---	---	---	---
134:				
Skelon family	---	---	---	---
Greyeagle family	---	---	---	---
Detrital	---	---	---	---
135:				
Skelon family	---	---	---	---
Pinaleno family	---	---	---	---
136:				
Storybook	---	---	---	---
137:				
Stronghold family	---	---	---	---
McAllister family	---	---	---	---
138:				
Sunrock	---	---	---	---

Table 3.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber	
			cu ft/ac	
139:				
Sunrock	---	---	---	---
Rock outcrop	---	---	---	---
140:				
Superstition family	---	---	---	---
Carrwash	---	---	---	---
141:				
Taine	Utah juniper	32	10	Utah juniper
142:				
Thimble	---	---	---	---
Rock outcrop	---	---	---	---
143:				
Tombstone family	---	---	---	---
Caralampi family	---	---	---	---
Nolam family	---	---	---	---
144:				
Torriorthents	---	---	---	---
145:				
Torriorthents	---	---	---	---
Haplocambids	---	---	---	---
146:				
Torriorthents	---	---	---	---
Rock outcrop	---	---	---	---
147:				
Tovar	Utah juniper	42	12	Utah juniper
Grandwash	Utah juniper	42	12	Utah juniper
148:				
Truxton	---	---	---	---
Truxton, frequently flooded	---	---	---	---
149:				
Tumarion	---	---	---	---

Table 3.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber	
			cu ft/ac	
150:				
Tumarion	---	---	---	---
Nickel family	---	---	---	---
151:				
Tumarion	---	---	---	---
Nickel family	---	---	---	---
152:				
Tyro	---	---	---	---
153:				
Tyro	---	---	---	---
154:				
Tyro	---	---	---	---
Sunrock	---	---	---	---
155:				
Urban land	---	---	---	---
Calvista family	---	---	---	---
156:				
Ustorthents	---	---	---	---
Rock outcrop	---	---	---	---
157:				
Valena	---	---	---	---
Carri	---	---	---	---
158:				
Valena	---	---	---	---
Rock outcrop	---	---	---	---
Carri family	---	---	---	---
159:				
Vekol family	---	---	---	---
160:				
Vekol family	---	---	---	---
161:				
Vekol family	---	---	---	---
Whitehills	---	---	---	---

Table 3.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber	
			cu ft/ac	
162:				
Vock	---	---	---	---
Elements	---	---	---	---
Rock outcrop	---	---	---	---
163:				
Vock	singleleaf pinyon	45	14	singleleaf pinyon
Elements	singleleaf pinyon	45	14	singleleaf pinyon
Rock outcrop	---	---	---	---
164:				
Water	---	---	---	---
165:				
White House	---	---	---	---
166:				
White House family	---	---	---	---
167:				
Whitehills	---	---	---	---
168:				
Wodomont	Colorado pinyon	39	6	Colorado pinyon, Utah juniper
	Utah juniper	39	6	
Kydestea	Colorado pinyon	39	6	Colorado pinyon, Utah juniper
	Utah juniper	39	6	
169:				
Wodomont	Colorado pinyon	56	8	Colorado pinyon, Utah juniper
	Utah juniper	56	9	
Metuck	Colorado pinyon	56	8	Colorado pinyon, Utah juniper
	Utah juniper	56	9	
Rock outcrop	---	---	---	---
170:				
Wodomont	Colorado pinyon	39	6	Colorado pinyon, Utah juniper
	Utah juniper	39	6	
Rock outcrop	---	---	---	---
171:				
Yahana family	---	---	---	---
172:				
Zibate family	---	---	---	---

Table 3.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber	
			cu ft/ac	
173:				
Zibate family	---	---	---	---
174:				
Zibate family	---	---	---	---
Dutchflat	---	---	---	---
Tumarion	---	---	---	---

Table 4.--Camp Areas, Picnic Areas, and Playgrounds

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1:							
Alko family	85	Very limited		Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Slope	0.74	Slope	0.74	Slope	1.00
		Dusty	0.50	Dusty	0.50	Content of large stones	0.99
		Content of large stones	0.02	Content of large stones	0.02	Dusty	0.50
						Gravel content	0.29
2:							
Alko family	85	Very limited		Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Gravel content	0.36	Gravel content	0.36	Gravel content	1.00
						Slope	0.88
						Content of large stones	0.01
3:							
Appleseed	45	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Content of large stones	1.00
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Content of large stones	0.35	Content of large stones	0.35	Slope	1.00
						Gravel content	0.34
Huevi	40	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Slope	1.00	Slope	1.00	Slope	1.00

Table 4.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
4:							
Aridic Argiustolls--	60	Not rated		Not rated		Not rated	
Lithic Haplustolls--	30	Not rated		Not rated		Not rated	
5:							
Arizo	40	Somewhat limited		Somewhat limited		Very limited	
		Too sandy	0.42	Too sandy	0.42	Gravel content	1.00
		Gravel content	0.32	Gravel content	0.32	Slope	0.50
						Too sandy	0.42
Detrital	30	Somewhat limited		Somewhat limited		Very limited	
		Gravel content	0.22	Gravel content	0.22	Gravel content	1.00
						Slope	0.50
						Content of large stones	0.01
Nickel	20	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Restricted permeability	0.26	Restricted permeability	0.26	Slope	0.50
						Restricted permeability	0.26
6:							
Arizo	40	Very limited		Somewhat limited		Very limited	
		Flooding	1.00	Gravel content	0.50	Gravel content	1.00
		Gravel content	0.50	Flooding	0.40	Flooding	1.00
Franconia	30	Very limited		Not limited		Somewhat limited	
		Flooding	1.00			Flooding	0.60
Riverwash	20	Not rated		Not rated		Not rated	

Table 4.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
7:							
Arizo	55	Very limited		Somewhat limited		Very limited	
		Flooding	1.00	Gravel content	0.46	Gravel content	1.00
		Gravel content	0.46			Flooding	0.60
Riverwash	35	Not rated		Not rated		Not rated	
8:							
Arizo	50	Very limited		Somewhat limited		Very limited	
		Flooding	1.00	Too sandy	0.42	Gravel content	1.00
		Too sandy	0.42	Flooding	0.40	Flooding	1.00
		Gravel content	0.32	Gravel content	0.32	Too sandy	0.42
						Slope	0.12
Riverwash	25	Not rated		Not rated		Not rated	
9:							
Arizo	60	Very limited		Somewhat limited		Very limited	
		Flooding	1.00	Too sandy	0.42	Gravel content	1.00
		Too sandy	0.42	Gravel content	0.32	Too sandy	0.42
		Gravel content	0.32				
Riverwash	30	Not rated		Not rated		Not rated	
10:							
Arizo	55	Very limited		Very limited		Very limited	
		Flooding	1.00	Too sandy	1.00	Gravel content	1.00
		Too sandy	1.00	Gravel content	1.00	Too sandy	1.00
		Gravel content	1.00	Flooding	0.40	Flooding	1.00
		Content of large stones	0.05	Content of large stones	0.05	Content of large stones	1.00
Riverwash	35	Not rated		Not rated		Not rated	
11:							
Azure	45	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Gravel content	1.00
		Gravel content	1.00	Gravel content	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00

Table 4.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
11:							
Detrital	30	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
Antares	20	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Gravel content	1.00
		Gravel content	1.00	Gravel content	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Too Stony	0.76	Too Stony	0.76	Too Stony	0.76
12:							
Birdsbeak	90	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Gravel content	1.00
		Too Stony	1.00	Too Stony	1.00	Slope	1.00
		Gravel content	1.00	Gravel content	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Too Stony	1.00
		Dusty	0.50	Dusty	0.50	Dusty	0.50
13:							
Bluebird	50	Somewhat limited		Somewhat limited		Very limited	
		Restricted permeability	0.26	Restricted permeability	0.26	Content of large stones	1.00
		Content of large stones	0.08	Content of large stones	0.08	Gravel content	1.00
		Gravel content	0.01	Gravel content	0.01	Slope	1.00
						Restricted permeability	0.26
Detrital	40	Very limited		Very limited		Very limited	
		Too Stony	1.00	Too Stony	1.00	Too Stony	1.00
		Content of large stones	0.05	Content of large stones	0.05	Content of large stones	1.00
		Gravel content	0.01	Gravel content	0.01	Gravel content	1.00
						Slope	1.00

Table 4.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
14:							
Bluebird	70	Somewhat limited		Somewhat limited		Somewhat limited	
		Dusty	0.50	Dusty	0.50	Dusty	0.50
		Restricted permeability	0.26	Restricted permeability	0.26	Restricted permeability	0.26
						Slope	0.12
Lostman	25	Somewhat limited		Somewhat limited		Very limited	
		Gravel content	0.32	Gravel content	0.32	Gravel content	1.00
						Slope	0.12
15:							
Carrizo	75	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
						Slope	0.12
Carrizo, rarely flooded	20	Very limited		Very limited		Very limited	
		Flooding	1.00	Gravel content	1.00	Gravel content	1.00
		Gravel content	1.00				
16:							
Carrizo	75	Very limited		Somewhat limited		Very limited	
		Flooding	1.00	Too sandy	0.78	Gravel content	1.00
		Too sandy	0.78	Gravel content	0.68	Too sandy	0.78
		Gravel content	0.68			Flooding	0.60
Riverwash	15	Not rated		Not rated		Not rated	
17:							
Carrizo	75	Very limited		Very limited		Very limited	
		Flooding	1.00	Gravel content	1.00	Gravel content	1.00
		Gravel content	1.00	Too Stony	0.76	Slope	1.00
		Too Stony	0.76	Too sandy	0.30	Too Stony	0.76
		Too sandy	0.30			Flooding	0.60
						Too sandy	0.30
Riverwash	15	Not rated		Not rated		Not rated	

Table 4.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
18:							
Chuckawalla---------	65	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Dusty	0.50	Dusty	0.50	Slope	1.00
		Slope	0.04	Slope	0.04	Dusty	0.50
						Content of large stones	0.08
Riverbend----------	25	Somewhat limited		Somewhat limited		Very limited	
		Gravel content	0.65	Gravel content	0.65	Gravel content	1.00
		Slope	0.04	Slope	0.04	Slope	1.00
		Content of large stones	0.01	Content of large stones	0.01	Content of large stones	0.99
19:							
Circular----------	45	Somewhat limited		Somewhat limited		Somewhat limited	
		Dusty	0.50	Dusty	0.50	Dusty	0.50
						Gravel content	0.04
Circular----------	40	Not limited		Not limited		Somewhat limited	
						Gravel content	0.06
20:							
Circular----------	50	Not limited		Not limited		Not limited	
Dusty---------------	30	Very limited		Very limited		Very limited	
		Sodium content	1.00	Sodium content	1.00	Sodium content	1.00
		Restricted permeability	1.00	Restricted permeability	1.00	Restricted permeability	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
21:							
Cod-----------------	90	Somewhat limited		Somewhat limited		Very limited	
		Gravel content	0.46	Gravel content	0.46	Gravel content	1.00
						Slope	0.50

Table 4.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
22:							
Cordes	45	Very limited		Somewhat limited		Very limited	
		Flooding	1.00	Flooding	0.40	Flooding	1.00
						Slope	0.12
						Gravel content	0.06
Manikan	25	Very limited		Very limited		Very limited	
		Sodium content	1.00	Sodium content	1.00	Sodium content	1.00
						Slope	0.12
						Gravel content	0.06
Riverwash	10	Not rated		Not rated		Not rated	
23:							
Cupel	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Gravel content	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
		Too Stony	1.00	Too Stony	1.00	Depth to bedrock	1.00
		Gravel content	0.96	Gravel content	0.96	Too Stony	1.00
						Content of large stones	0.92
Rock outcrop	20	Not rated		Not rated		Not rated	
24:							
Cyclopic	80	Very limited		Very limited		Very limited	
		Too Stony	1.00	Too Stony	1.00	Content of large stones	1.00
		Content of large stones	0.98	Content of large stones	0.98	Too Stony	1.00
		Restricted permeability	0.96	Restricted permeability	0.96	Slope	1.00
		Depth to cemented pan	0.84	Depth to cemented pan	0.84	Restricted permeability	0.96
						Depth to cemented pan	0.84

Table 4.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
25:							
Deluge	50	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Depth to cemented pan	0.90	Depth to cemented pan	0.90	Depth to cemented pan	0.90
		Restricted permeability	0.26	Restricted permeability	0.26	Slope	0.88
						Restricted permeability	0.26
Gotchell	17	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Depth to cemented pan	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
						Slope	0.88
						Depth to bedrock	0.65
Sunstroke	13	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Depth to cemented pan	0.90	Depth to cemented pan	0.90	Depth to cemented pan	0.90
						Slope	0.88
26:							
Detrital	45	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
						Slope	1.00
Bluebird	35	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Restricted permeability	0.26	Restricted permeability	0.26	Slope	1.00
						Content of large stones	0.38
						Restricted permeability	0.26

Table 4.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
27:							
Detrital	55	Somewhat limited		Somewhat limited		Very limited	
		Gravel content	0.32	Gravel content	0.32	Gravel content	1.00
						Slope	0.50
Nealy	35	Somewhat limited		Somewhat limited		Very limited	
		Dusty	0.50	Dusty	0.50	Gravel content	1.00
		Gravel content	0.32	Gravel content	0.32	Slope	0.50
		Depth to cemented pan	0.20	Depth to cemented pan	0.20	Dusty	0.50
						Depth to cemented pan	0.20
28:							
Detrital	60	Somewhat limited		Somewhat limited		Very limited	
		Gravel content	0.32	Gravel content	0.32	Gravel content	1.00
						Slope	0.50
Nickel	35	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Restricted permeability	0.26	Restricted permeability	0.26	Slope	0.50
						Restricted permeability	0.26
29:							
Detrital	60	Very limited		Very limited		Very limited	
		Too Stony	1.00	Too Stony	1.00	Gravel content	1.00
		Gravel content	0.32	Gravel content	0.32	Too Stony	1.00
						Slope	0.12
Nickel family	25	Somewhat limited		Somewhat limited		Very limited	
		Gravel content	0.46	Gravel content	0.46	Gravel content	1.00
		Restricted permeability	0.26	Restricted permeability	0.26	Restricted permeability	0.26
						Slope	0.12

Table 4.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
30:							
Detrital	50	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
						Slope	0.12
Skelon family	30	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Depth to cemented pan	0.97	Depth to cemented pan	0.97	Depth to cemented pan	0.97
						Slope	0.12
						Content of large stones	0.08
31:							
Dusty	70	Very limited		Very limited		Very limited	
		Sodium content	1.00	Sodium content	1.00	Sodium content	1.00
		Restricted permeability	1.00	Restricted permeability	1.00	Restricted permeability	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
						Slope	0.50
Kurstan family	15	Not limited		Not limited		Somewhat limited	
						Slope	0.50
32:							
Dutchflat	80	Not limited		Not limited		Not limited	
33:							
Dye	50	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
		Too Stony	1.00	Too Stony	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Too Stony	1.00
		Content of large stones	0.46	Content of large stones	0.46	Gravel content	1.00
		Restricted permeability	0.41	Restricted permeability	0.41	Content of large stones	1.00

Table 4.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
33:							
Tovar	20	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Too Stony	1.00	Too Stony	1.00	Too Stony	1.00
		Restricted permeability	0.45	Restricted permeability	0.45	Content of large stones	0.99
		Too sandy	0.01	Too sandy	0.01	Restricted permeability	0.45
Rock outcrop	15	Not rated		Not rated		Not rated	
34:							
Faraway	70	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Gravel content	1.00
		Gravel content	1.00	Gravel content	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
Rock outcrop	20	Not rated		Not rated		Not rated	
35:							
Fig	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Content of large stones	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
		Too Stony	1.00	Too Stony	1.00	Depth to bedrock	1.00
		Content of large stones	1.00	Content of large stones	1.00	Too Stony	1.00
Blind	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too Stony	1.00	Too Stony	1.00	Too Stony	1.00
		Content of large stones	0.88	Content of large stones	0.88	Content of large stones	1.00
						Gravel content	0.12

Table 4.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
35:							
Nodman	15	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Content of large stones	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
		Content of large stones	0.82	Content of large stones	0.82	Depth to bedrock	1.00
		Restricted permeability	0.26	Restricted permeability	0.26	Gravel content	0.99
						Restricted permeability	0.26
36:							
Filaree	80	Somewhat limited		Somewhat limited		Very limited	
		Gravel content	0.46	Gravel content	0.46	Gravel content	1.00
						Slope	0.50
37:							
Filaree	60	Somewhat limited		Somewhat limited		Very limited	
		Gravel content	0.46	Gravel content	0.46	Gravel content	1.00
						Slope	0.50
Dutchflat	30	Not limited		Not limited		Somewhat limited	
						Slope	0.50
38:							
Garnet	50	Somewhat limited		Somewhat limited		Very limited	
		Gravel content	0.32	Gravel content	0.32	Gravel content	1.00
		Restricted permeability	0.26	Restricted permeability	0.26	Slope	0.50
						Restricted permeability	0.26
Dutchflat	40	Not limited		Not limited		Somewhat limited	
						Slope	0.50

Table 4.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
39:							
Goesling family-----	75	Somewhat limited		Somewhat limited		Very limited	
		Dusty	0.50	Dusty	0.50	Slope	1.00
						Dusty	0.50
						Gravel content	0.04
40:							
Goldroad----------	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Gravel content	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
		Gravel content	0.91	Gravel content	0.91	Depth to bedrock	1.00
		Too Stony	0.19	Too Stony	0.19	Content of large stones	0.99
		Content of large stones	0.01	Content of large stones	0.01	Too Stony	0.19
Rock outcrop--------	10	Not rated		Not rated		Not rated	
41:							
Goldroad----------	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Gravel content	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
		Gravel content	0.91	Gravel content	0.91	Depth to bedrock	1.00
		Too Stony	0.19	Too Stony	0.19	Content of large stones	0.99
		Content of large stones	0.01	Content of large stones	0.01	Too Stony	0.19
Rock outcrop--------	20	Not rated		Not rated		Not rated	

Table 4.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
42:							
Gonzales	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Content of large stones	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
		Restricted permeability	0.39	Restricted permeability	0.39	Depth to bedrock	1.00
		Content of large stones	0.18	Content of large stones	0.18	Gravel content	0.99
						Restricted permeability	0.39
Rock outcrop	25	Not rated		Not rated		Not rated	
43:							
Goodsprings family	75	Very limited		Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00	Gravel content	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Gravel content	0.68	Gravel content	0.68	Depth to cemented pan	1.00
44:							
Gotchell	50	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Depth to cemented pan	1.00	Depth to cemented pan	1.00	Slope	1.00
		Slope	1.00	Slope	1.00	Depth to cemented pan	1.00
						Depth to bedrock	0.65
Sunstroke	30	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to cemented pan	0.90	Depth to cemented pan	0.90	Depth to cemented pan	0.90

Table 4.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
45:							
Graham	60	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Content of large stones	1.00
		Too Stony	1.00	Too Stony	1.00	Depth to bedrock	1.00
		Restricted permeability	0.94	Restricted permeability	0.94	Too Stony	1.00
		Content of large stones	0.54	Content of large stones	0.54	Gravel content	1.00
		Dusty	0.50	Dusty	0.50	Slope	1.00
Arivaca	25	Very limited		Very limited		Very limited	
		Too Stony	1.00	Too Stony	1.00	Content of large stones	1.00
		Restricted permeability	0.39	Restricted permeability	0.39	Gravel content	1.00
		Content of large stones	0.32	Content of large stones	0.32	Slope	1.00
		Slope	0.04	Slope	0.04	Too Stony	1.00
		Gravel content	0.02	Gravel content	0.02	Depth to bedrock	0.42
46:							
Graham	60	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Content of large stones	1.00
		Too Stony	1.00	Too Stony	1.00	Slope	1.00
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Restricted permeability	0.94	Restricted permeability	0.94	Too Stony	1.00
		Content of large stones	0.54	Content of large stones	0.54	Gravel content	1.00
Rock outcrop	20	Not rated		Not rated		Not rated	

Table 4.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
47:							
Grandwash	85	Very limited		Very limited		Very limited	
		Content of large stones	1.00	Content of large stones	1.00	Content of large stones	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Too Stony	1.00	Too Stony	1.00	Too Stony	1.00
		Slope	0.96	Slope	0.96	Slope	1.00
		Restricted permeability	0.45	Restricted permeability	0.45	Restricted permeability	0.45
48:							
Greyeagle family	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Gravel content	1.00
		Gravel content	1.00	Gravel content	1.00	Slope	1.00
		Depth to cemented pan	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Too Stony	1.00	Too Stony	1.00	Too Stony	1.00
						Content of large stones	0.54
49:							
Greyeagle family	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Gravel content	1.00
		Gravel content	1.00	Gravel content	1.00	Slope	1.00
		Depth to cemented pan	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Too Stony	0.76	Too Stony	0.76	Too Stony	0.76
						Content of large stones	0.46
50:							
Greyeagle family	70	Very limited		Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00	Gravel content	1.00
		Gravel content	0.97	Gravel content	0.97	Depth to cemented pan	1.00
						Slope	1.00
						Content of large stones	0.54

Table 4.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
50:							
Cyclopic	20	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Restricted permeability	0.96	Restricted permeability	0.96	Slope	1.00
		Depth to cemented pan	0.80	Depth to cemented pan	0.80	Restricted permeability	0.96
		Too Stony	0.76	Too Stony	0.76	Depth to cemented pan	0.79
						Too Stony	0.76
51:							
Greyeagle family	70	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Depth to cemented pan	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
						Slope	1.00
Skelon family	20	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Depth to cemented pan	0.90	Depth to cemented pan	0.90	Slope	1.00
						Depth to cemented pan	0.90
52:							
Greyeagle family	60	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Depth to cemented pan	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Too Stony	1.00	Too Stony	1.00	Too Stony	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
						Content of large stones	0.61

Table 4.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
52:							
Skelon family-------	20	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to cemented pan	0.90	Depth to cemented pan	0.90	Depth to cemented pan	0.90
						Content of large stones	0.08
53:							
Gypsids-------------	90	Not rated		Not rated		Not rated	
54:							
Haplogypsids, eroded	70	Not rated		Not rated		Not rated	
Haplogypsids--------	30	Not rated		Not rated		Not rated	
55:							
Hassell family------	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Dusty	0.50	Dusty	0.50	Dusty	0.50
		Restricted permeability	0.39	Restricted permeability	0.39	Depth to bedrock	0.42
						Restricted permeability	0.39
						Gravel content	0.04
Lampshire-----------	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Gravel content	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
		Gravel content	1.00	Gravel content	1.00	Depth to bedrock	1.00
		Dusty	0.50	Dusty	0.50	Dusty	0.50
Rock outcrop--------	20	Not rated		Not rated		Not rated	

Table 4.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
56:							
Hindu	60	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Content of large stones	1.00
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Content of large stones	0.88	Content of large stones	0.88	Slope	1.00
		Dusty	0.50	Dusty	0.50	Gravel content	1.00
		Restricted permeability	0.45	Restricted permeability	0.45	Dusty	0.50
Rock outcrop	20	Not rated		Not rated		Not rated	
57:							
Hooks family	45	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.01	Too sandy	0.01	Slope	0.12
						Too sandy	0.01
Courtland family	40	Not limited		Not limited		Somewhat limited	
						Slope	0.12
58:							
Hosta family	75	Somewhat limited		Somewhat limited		Somewhat limited	
		Restricted permeability	0.45	Restricted permeability	0.45	Slope	0.88
						Restricted permeability	0.45
House Mountain family	40	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00

Table 4.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
59:							
Calvista family-----	30	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Gravel content	1.00
		Gravel content	1.00	Gravel content	1.00	Slope	1.00
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Dusty	0.50	Dusty	0.50	Dusty	0.50
Rock outcrop--------	20	Not rated		Not rated		Not rated	
60:							
Huevi---------------	90	Very limited		Very limited		Very limited	
		Too Stony	1.00	Too Stony	1.00	Content of large stones	1.00
		Content of large stones	1.00	Content of large stones	1.00	Too Stony	1.00
						Slope	0.50
61:							
Huevi---------------	85	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Dusty	0.50	Dusty	0.50	Dusty	0.50
62:							
Huevi---------------	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Gravel content	1.00
		Gravel content	1.00	Gravel content	1.00	Slope	1.00
63:							
Huevi---------------	65	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Slope	0.84	Slope	0.84	Slope	1.00
		Dusty	0.50	Dusty	0.50	Dusty	0.50
Carrizo-------------	15	Very limited		Very limited		Very limited	
		Flooding	1.00	Gravel content	1.00	Gravel content	1.00
		Gravel content	1.00			Slope	0.12
						Content of large stones	0.01

Table 4.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
64:							
Huevi	65	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
Carrwash	20	Very limited		Very limited		Very limited	
		Slope	1.00	Too sandy	1.00	Gravel content	1.00
		Gravel content	1.00	Slope	1.00	Slope	1.00
		Too sandy	1.00	Gravel content	1.00	Too sandy	1.00
65:							
Huevi	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Content of large stones	1.00
		Content of large stones	1.00	Content of large stones	1.00	Slope	1.00
Sunrock	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Content of large stones	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
		Too Stony	1.00	Too Stony	1.00	Depth to bedrock	1.00
		Content of large stones	0.32	Content of large stones	0.32	Gravel content	1.00
		Gravel content	0.26	Gravel content	0.26	Too Stony	1.00
Rock outcrop	10	Not rated		Not rated		Not rated	
66:							
Hulda	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Gravel content	1.00
		Gravel content	1.00	Gravel content	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Too Stony	0.76	Too Stony	0.76	Too Stony	0.76

Table 4.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
67:							
Hulda	70	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Content of large stones	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
		Too Stony	1.00	Too Stony	1.00	Depth to bedrock	1.00
		Content of large stones	0.88	Content of large stones	0.88	Too Stony	1.00
						Gravel content	0.97
Rock outcrop	20	Not rated		Not rated		Not rated	
68:							
Hulda	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Content of large stones	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
		Too Stony	1.00	Too Stony	1.00	Depth to bedrock	1.00
		Content of large stones	0.98	Content of large stones	0.98	Too Stony	1.00
						Gravel content	0.01
Rock outcrop	35	Not rated		Not rated		Not rated	
69:							
Ireteba family	45	Very limited		Somewhat limited		Very limited	
		Flooding	1.00	Gravel content	0.50	Gravel content	1.00
		Gravel content	0.50				
Arizo	30	Very limited		Somewhat limited		Very limited	
		Flooding	1.00	Gravel content	0.50	Gravel content	1.00
		Gravel content	0.50	Flooding	0.40	Flooding	1.00
70:							
Jagerson	85	Somewhat limited		Somewhat limited		Very limited	
		Gravel content	0.50	Gravel content	0.50	Gravel content	1.00
		Restricted permeability	0.15	Restricted permeability	0.15	Restricted permeability	0.15
						Slope	0.12

Table 4.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
71:							
Jagerson	45	Somewhat limited		Somewhat limited		Very limited	
		Gravel content	0.46	Gravel content	0.46	Gravel content	1.00
		Restricted permeability	0.26	Restricted permeability	0.26	Restricted permeability	0.26
Nealy	40	Somewhat limited		Somewhat limited		Very limited	
		Gravel content	0.50	Gravel content	0.50	Gravel content	1.00
		Depth to cemented pan	0.20	Depth to cemented pan	0.20		
72:							
Kingtut	45	Very limited		Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00	Gravel content	1.00
		Gravel content	1.00	Gravel content	1.00	Depth to cemented pan	1.00
		Restricted permeability	0.41	Restricted permeability	0.41	Slope	1.00
						Restricted permeability	0.41
						Depth to bedrock	0.20
Promontory	35	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Gravel content	1.00
		Depth to cemented pan	1.00	Depth to cemented pan	1.00	Depth to bedrock	1.00
		Gravel content	0.92	Gravel content	0.92	Depth to cemented pan	1.00
						Slope	1.00
73:							
Kinley	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Gravel content	1.00
		Too sandy	0.79	Too sandy	0.79	Slope	1.00
		Gravel content	0.50	Gravel content	0.50	Too sandy	0.79

Table 4.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
74:							
Kurstan family------	60	Not limited		Not limited		Somewhat limited	
						Slope	0.50
Dusty---------------	30	Very limited		Very limited		Very limited	
		Sodium content	1.00	Sodium content	1.00	Sodium content	1.00
		Restricted permeability	1.00	Restricted permeability	1.00	Restricted permeability	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
						Slope	0.50
75:							
Lampshire-----------	65	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Gravel content	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
		Gravel content	0.46	Gravel content	0.46	Depth to bedrock	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
76:							
Lostman-------------	80	Somewhat limited		Somewhat limited		Very limited	
		Gravel content	0.32	Gravel content	0.32	Gravel content	1.00
						Slope	0.12
77:							
Lostman-------------	80	Not limited		Not limited		Somewhat limited	
						Slope	0.12
78:							
Luzena--------------	45	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Content of large stones	1.00
		Content of large stones	0.92	Content of large stones	0.92	Depth to bedrock	1.00
		Slope	0.63	Slope	0.63	Gravel content	1.00
		Dusty	0.50	Dusty	0.50	Slope	1.00
		Restricted permeability	0.41	Restricted permeability	0.41	Dusty	0.50

Table 4.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
78:							
Thunderbird---------	30	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Gravel content	1.00
		Restricted permeability	0.45	Restricted permeability	0.45	Content of large stones	1.00
		Content of large stones	0.08	Content of large stones	0.08	Slope	1.00
		Gravel content	0.02	Gravel content	0.02	Restricted permeability	0.45
						Depth to bedrock	0.42
79:							
Lykorly-------------	85	Somewhat limited		Somewhat limited		Very limited	
		Dusty	0.50	Dusty	0.50	Gravel content	1.00
		Gravel content	0.02	Gravel content	0.02	Dusty	0.50
						Slope	0.12
80:							
Lykorly-------------	75	Somewhat limited		Somewhat limited		Somewhat limited	
		Dusty	0.50	Dusty	0.50	Dusty	0.50
		Restricted permeability	0.41	Restricted permeability	0.41	Restricted permeability	0.41
						Slope	0.12
81:							
Manikan-------------	60	Very limited		Very limited		Very limited	
		Sodium content	1.00	Sodium content	1.00	Sodium content	1.00
						Gravel content	0.06
Nuffel--------------	25	Not limited		Not limited		Not limited	
82:							
Mathis family-------	55	Very limited		Very limited		Very limited	
		Flooding	1.00	Too Stony	1.00	Content of large stones	1.00
		Too Stony	1.00	Content of large stones	1.00	Flooding	1.00
		Content of large stones	1.00	Flooding	0.40	Too Stony	1.00
						Slope	0.12

Table 4.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
82:							
Riverwash	35	Not rated		Not rated		Not rated	
83:							
Mayswell	75	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Restricted permeability	0.96	Restricted permeability	0.96	Restricted permeability	0.96
						Content of large stones	0.68
Rock outcrop	15	Not rated		Not rated		Not rated	
84:							
Meadview	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too Stony	0.76	Too Stony	0.76	Gravel content	1.00
		Gravel content	0.61	Gravel content	0.61	Content of large stones	1.00
		Content of large stones	0.18	Content of large stones	0.18	Too Stony	0.76
85:							
Meadview	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Content of large stones	1.00
		Too Stony	1.00	Too Stony	1.00	Slope	1.00
		Content of large stones	0.16	Content of large stones	0.16	Too Stony	1.00
						Gravel content	0.95

Table 4.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
85:							
Yurm family---------	30	Very limited		Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00	Gravel content	1.00
		Gravel content	0.99	Gravel content	0.99	Depth to cemented pan	1.00
						Slope	1.00
						Content of large stones	0.68
86:							
Meriwhitica---------	65	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Too Stony	1.00	Too Stony	1.00	Too Stony	1.00
Rock outcrop--------	15	Not rated		Not rated		Not rated	
87:							
Mextank-------------	80	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
						Slope	1.00
88:							
Milkweed------------	50	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Depth to cemented pan	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Slope	0.37	Slope	0.37	Slope	1.00
Quartermaster-------	30	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Restricted permeability	0.45	Restricted permeability	0.45	Slope	1.00
		Depth to cemented pan	0.42	Depth to cemented pan	0.42	Restricted permeability	0.45
						Depth to cemented pan	0.42

Table 4.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
88:							
Buckndoe	15	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Slope	0.37	Slope	0.37	Slope	1.00
89:							
Milok	55	Somewhat limited		Somewhat limited		Very limited	
		Gravel content	0.41	Gravel content	0.41	Gravel content	1.00
						Slope	1.00
Pastern	35	Very limited		Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00	Gravel content	1.00
		Gravel content	0.50	Gravel content	0.50	Depth to cemented pan	1.00
						Slope	1.00
90:							
Mutang	45	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Gravel content	1.00
		Restricted permeability	1.00	Restricted permeability	1.00	Depth to bedrock	1.00
		Gravel content	0.32	Gravel content	0.32	Restricted permeability	1.00
Dutchflat	40	Not limited		Not limited		Not limited	
91:							
Mutang	55	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Gravel content	1.00
		Restricted permeability	1.00	Restricted permeability	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Restricted permeability	1.00
		Gravel content	0.32	Gravel content	0.32	Slope	1.00

Table 4.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
91:							
Wikieup	25	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Dusty	0.50	Dusty	0.50	Dusty	0.50
		Restricted permeability	0.45	Restricted permeability	0.45	Restricted permeability	0.45
Rock outcrop	15	Not rated		Not rated		Not rated	
92:							
Nealy	60	Somewhat limited		Somewhat limited		Very limited	
		Depth to cemented pan	0.95	Depth to cemented pan	0.95	Gravel content	1.00
		Gravel content	0.46	Gravel content	0.46	Depth to cemented pan	0.95
						Slope	0.88
Shamock family	30	Somewhat limited		Somewhat limited		Very limited	
		Depth to cemented pan	0.95	Depth to cemented pan	0.95	Gravel content	1.00
		Gravel content	0.46	Gravel content	0.46	Depth to cemented pan	0.95
						Slope	0.88
93:							
Nealy	40	Somewhat limited		Somewhat limited		Very limited	
		Gravel content	0.46	Gravel content	0.46	Gravel content	1.00
		Depth to cemented pan	0.20	Depth to cemented pan	0.20	Slope	1.00
						Depth to cemented pan	0.20

Table 4.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
93:							
Skelon family-------	30	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Depth to cemented pan	0.06	Depth to cemented pan	0.06	Slope	1.00
						Depth to cemented pan	0.06
Detrital----------	25	Somewhat limited		Somewhat limited		Very limited	
		Gravel content	0.32	Gravel content	0.32	Gravel content	1.00
						Slope	1.00
94:							
Nickel family-------	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Gravel content	1.00
		Gravel content	1.00	Gravel content	1.00	Slope	1.00
		Restricted permeability	0.26	Restricted permeability	0.26	Restricted permeability	0.26
Bluebird----------	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Gravel content	1.00
		Gravel content	1.00	Gravel content	1.00	Slope	1.00
		Restricted permeability	0.22	Restricted permeability	0.22	Content of large stones	0.38
						Restricted permeability	0.22
95:							
Nickel----------	45	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Restricted permeability	0.26	Restricted permeability	0.26	Slope	1.00
						Restricted permeability	0.26

Table 4.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
95:							
Skelon family-------	25	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Depth to cemented pan	0.10	Depth to cemented pan	0.10	Slope	1.00
						Depth to cemented pan	0.10
Detrital----------	15	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
						Slope	1.00
96:							
Nickel family-------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Gravel content	1.00
		Gravel content	1.00	Gravel content	1.00	Slope	1.00
		Too sandy	0.30	Too sandy	0.30	Too sandy	0.30
		Restricted permeability	0.26	Restricted permeability	0.26	Restricted permeability	0.26
						Content of large stones	0.08
Topawa family-------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Gravel content	1.00
		Gravel content	1.00	Gravel content	1.00	Slope	1.00
		Too sandy	0.72	Too sandy	0.72	Too sandy	0.72
		Restricted permeability	0.15	Restricted permeability	0.15	Restricted permeability	0.15
Eba family----------	25	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Restricted permeability	0.94	Restricted permeability	0.94	Restricted permeability	0.94
						Content of large stones	0.03

Table 4.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
97:							
Nodman	40	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Restricted permeability	0.26	Restricted permeability	0.26	Slope	1.00
						Restricted permeability	0.26
Antares	35	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Restricted permeability	0.45	Restricted permeability	0.45	Slope	1.00
						Restricted permeability	0.45
98:							
Nodman	60	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Gravel content	1.00
		Gravel content	0.68	Gravel content	0.68	Depth to bedrock	1.00
		Slope	0.04	Slope	0.04	Slope	1.00
Courtland family	25	Somewhat limited		Somewhat limited		Very limited	
		Gravel content	0.32	Gravel content	0.32	Gravel content	1.00
		Slope	0.04	Slope	0.04	Slope	1.00
						Depth to bedrock	0.54
99:							
Nodman	65	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Gravel content	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
		Gravel content	0.92	Gravel content	0.92	Depth to bedrock	1.00
Rock outcrop	20	Not rated		Not rated		Not rated	

Table 4.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
100:							
Nodman	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Too Stony	0.76	Too Stony	0.76	Gravel content	1.00
		Gravel content	0.01	Gravel content	0.01	Too Stony	0.76
						Content of large stones	0.08
Romero family	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Gravel content	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
		Gravel content	1.00	Gravel content	1.00	Depth to bedrock	1.00
						Content of large stones	0.01
101:							
Nolam family	35	Somewhat limited		Somewhat limited		Very limited	
		Content of large stones	0.32	Content of large stones	0.32	Content of large stones	1.00
		Gravel content	0.02	Gravel content	0.02	Gravel content	1.00
						Slope	0.50
Ustalfic Petrocalcids	30	Somewhat limited		Somewhat limited		Very limited	
		Gravel content	0.55	Gravel content	0.55	Gravel content	1.00
		Too Stony	0.19	Too Stony	0.19	Slope	0.50
		Depth to cemented pan	0.01	Depth to cemented pan	0.01	Content of large stones	0.32
						Too Stony	0.19
						Depth to cemented pan	0.01
Caralampi family	25	Very limited		Very limited		Very limited	
		Too Stony	1.00	Too Stony	1.00	Too Stony	1.00
		Dusty	0.50	Dusty	0.50	Content of large stones	0.92
						Slope	0.50
						Dusty	0.50
						Gravel content	0.01

Table 4.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
102:							
Ohaco family--------	50	Very limited		Very limited		Very limited	
		Restricted permeability	1.00	Restricted permeability	1.00	Restricted permeability	1.00
		Depth to cemented pan	0.10	Depth to cemented pan	0.10	Slope	0.88
						Depth to cemented pan	0.10
Bluebird----------	40	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Restricted permeability	0.22	Restricted permeability	0.22	Slope	0.88
						Content of large stones	0.38
						Restricted permeability	0.22
103:							
Orejano----------	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Gravel content	1.00
		Gravel content	0.92	Gravel content	0.92	Slope	1.00
		Restricted permeability	0.41	Restricted permeability	0.41	Restricted permeability	0.41
104:							
Pantak family-------	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Content of large stones	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
		Content of large stones	0.92	Content of large stones	0.92	Depth to bedrock	1.00
		Dusty	0.50	Dusty	0.50	Gravel content	0.86
		Restricted permeability	0.22	Restricted permeability	0.22	Dusty	0.50

Table 4.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
104:							
Taine	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Gravel content	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
		Gravel content	0.99	Gravel content	0.99	Depth to bedrock	1.00
		Too Stony	0.76	Too Stony	0.76	Content of large stones	1.00
		Restricted permeability	0.22	Restricted permeability	0.22	Too Stony	0.76
Terino family	15	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Gravel content	1.00
		Depth to cemented pan	1.00	Depth to cemented pan	1.00	Slope	1.00
		Too Stony	1.00	Too Stony	1.00	Depth to cemented pan	1.00
		Gravel content	0.61	Gravel content	0.61	Content of large stones	1.00
		Dusty	0.50	Dusty	0.50	Too Stony	1.00
105:							
Pastern	50	Very limited		Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00	Gravel content	1.00
		Slope	0.63	Slope	0.63	Depth to cemented pan	1.00
		Gravel content	0.50	Gravel content	0.50	Slope	1.00
Strych	40	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Slope	0.63	Slope	0.63	Slope	1.00
						Content of large stones	0.01
106:							
Peachsprings	75	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Slope	0.04	Slope	0.04	Slope	1.00

Table 4.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
106:							
Havasupai	20	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Depth to cemented pan	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
						Content of large stones	0.01
107:							
Pearce	80	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Content of large stones	1.00
		Too Stony	1.00	Too Stony	1.00	Depth to bedrock	1.00
		Content of large stones	0.98	Content of large stones	0.98	Too Stony	1.00
		Dusty	0.50	Dusty	0.50	Slope	1.00
		Slope	0.04	Slope	0.04	Gravel content	0.73
108:							
Pearce	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Content of large stones	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
		Too Stony	1.00	Too Stony	1.00	Depth to bedrock	1.00
		Content of large stones	0.98	Content of large stones	0.98	Too Stony	1.00
		Dusty	0.50	Dusty	0.50	Gravel content	0.97
Detrital	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Content of large stones	1.00
		Too Stony	1.00	Too Stony	1.00	Slope	1.00
		Gravel content	0.75	Gravel content	0.75	Too Stony	1.00
		Dusty	0.50	Dusty	0.50	Gravel content	1.00
		Content of large stones	0.32	Content of large stones	0.32	Dusty	0.50

Table 4.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
108:							
Rock outcrop--------	10	Not rated		Not rated		Not rated	
109:							
Pearce--------------	70	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Gravel content	1.00
		Gravel content	1.00	Gravel content	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Too Stony	1.00	Too Stony	1.00	Too Stony	1.00
		Dusty	0.50	Dusty	0.50	Dusty	0.50
Rock outcrop--------	15	Not rated		Not rated		Not rated	
110:							
Pedregosa family----	50	Very limited		Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00	Gravel content	1.00
		Too Stony	0.76	Too Stony	0.76	Depth to cemented pan	1.00
		Gravel content	0.68	Gravel content	0.68	Too Stony	0.76
						Content of large stones	0.68
Tombstone family----	40	Somewhat limited		Somewhat limited		Very limited	
		Gravel content	0.32	Gravel content	0.32	Gravel content	1.00
						Slope	0.50
111:							
Pidineen family-----	65	Very limited		Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00	Gravel content	1.00
		Gravel content	0.32	Gravel content	0.32	Depth to cemented pan	1.00
						Slope	1.00

Table 4.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
111:							
Tricon family-------	15	Somewhat limited		Somewhat limited		Very limited	
		Depth to cemented pan	0.99	Depth to cemented pan	0.99	Slope	1.00
		Restricted permeability	0.41	Restricted permeability	0.41	Depth to cemented pan	0.99
						Restricted permeability	0.41
112:							
Pits-dumps, mine----	100	Not rated		Not rated		Not rated	
113:							
Playa----------	100	Not rated		Not rated		Not rated	
114:							
Prieta----------	75	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Content of large stones	1.00
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Restricted permeability	0.96	Restricted permeability	0.96	Gravel content	1.00
		Content of large stones	0.92	Content of large stones	0.92	Slope	1.00
		Dusty	0.50	Dusty	0.50	Restricted permeability	0.96
Rock outcrop--------	15	Not rated		Not rated		Not rated	
115:							
Quagwa----------	85	Very limited		Somewhat limited		Somewhat limited	
		Flooding	1.00	Dusty	0.50	Dusty	0.50
		Dusty	0.50				

Table 4.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
116:							
Razorback	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Gravel content	1.00
		Gravel content	1.00	Gravel content	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
						Content of large stones	0.01
117:							
Razorback	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Content of large stones	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
		Content of large stones	0.61	Content of large stones	0.61	Depth to bedrock	1.00
		Dusty	0.50	Dusty	0.50	Gravel content	1.00
		Gravel content	0.06	Gravel content	0.06	Dusty	0.50
Rock outcrop	20	Not rated		Not rated		Not rated	
118:							
Razorback	65	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Gravel content	1.00
		Gravel content	1.00	Gravel content	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Dusty	0.50	Dusty	0.50	Dusty	0.50
Rock outcrop	30	Not rated		Not rated		Not rated	
119:							
Rift	75	Very limited		Very limited		Very limited	
		Flooding	1.00	Sodium content	1.00	Flooding	1.00
		Sodium content	1.00	Ponding	1.00	Sodium content	1.00
		Ponding	1.00	Dusty	0.50	Ponding	1.00
		Dusty	0.50	Flooding	0.40	Dusty	0.50

Table 4.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
120:							
Rift	85	Very limited		Very limited		Very limited	
		Sodium content	1.00	Sodium content	1.00	Sodium content	1.00
		Flooding	1.00	Ponding	1.00	Flooding	1.00
		Ponding	1.00	Restricted permeability	0.41	Ponding	1.00
		Restricted permeability	0.41	Flooding	0.40	Restricted permeability	0.41
		Salinity	0.13	Salinity	0.13	Salinity	0.13
121:							
Rillino family	50	Not limited		Not limited		Somewhat limited	
						Slope	0.12
Shamock family	25	Very limited		Very limited		Very limited	
		Restricted permeability	1.00	Restricted permeability	1.00	Gravel content	1.00
		Depth to cemented pan	0.95	Depth to cemented pan	0.95	Restricted permeability	1.00
		Gravel content	0.46	Gravel content	0.46	Depth to cemented pan	0.95
						Slope	0.12
Dutchflat	20	Not limited		Not limited		Somewhat limited	
						Slope	0.12
122:							
Rock outcrop	50	Not rated		Not rated		Not rated	
Appleseed	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Content of large stones	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
		Too Stony	1.00	Too Stony	1.00	Depth to bedrock	1.00
		Content of large stones	0.82	Content of large stones	0.82	Too Stony	1.00
						Gravel content	0.99

Table 4.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
123:							
Rock outcrop--------	55	Not rated		Not rated		Not rated	
Pearce--------------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Too Stony	1.00	Too Stony	1.00	Too Stony	1.00
		Content of large stones	0.18	Content of large stones	0.18	Content of large stones	1.00
						Gravel content	0.94
124:							
Rock outcrop--------	65	Not rated		Not rated		Not rated	
Razorback-----------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Gravel content	1.00
		Gravel content	1.00	Gravel content	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
						Content of large stones	0.01
125:							
Rock outcrop--------	50	Not rated		Not rated		Not rated	
Torriorthents-------	40	Not rated		Not rated		Not rated	
126:							
Rock outcrop--------	50	Not rated		Not rated		Not rated	
Torriorthents-------	40	Not rated		Not rated		Not rated	
127:							
Rock outcrop--------	50	Not rated		Not rated		Not rated	

Table 4.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
127:							
Valena	25	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Restricted permeability	0.45	Restricted permeability	0.45	Restricted permeability	0.45
Kopie family	20	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Gravel content	1.00
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Gravel content	0.50	Gravel content	0.50	Slope	1.00
128:							
Rolie	60	Very limited		Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00	Gravel content	1.00
		Gravel content	1.00	Gravel content	1.00	Depth to cemented pan	1.00
		Dusty	0.50	Dusty	0.50	Slope	1.00
		Slope	0.37	Slope	0.37	Dusty	0.50
		Restricted permeability	0.01	Restricted permeability	0.01	Restricted permeability	0.01
Dean	25	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Dusty	0.50	Dusty	0.50	Slope	1.00
		Slope	0.37	Slope	0.37	Dusty	0.50
						Content of large stones	0.01
129:							
Romero	45	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Too Stony	1.00	Too Stony	1.00	Too Stony	1.00
		Slope	1.00	Slope	1.00	Content of large stones	1.00
		Gravel content	0.36	Gravel content	0.36	Gravel content	1.00
		Content of large stones	0.26	Content of large stones	0.26	Slope	1.00

Table 4.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
129:							
Chiricahua	30	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Gravel content	1.00
		Gravel content	1.00	Gravel content	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Restricted permeability	0.39	Restricted permeability	0.39	Restricted permeability	0.39
						Content of large stones	0.20
Rock outcrop	20	Not rated		Not rated		Not rated	
130:							
Romero	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Content of large stones	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
		Too Stony	1.00	Too Stony	1.00	Depth to bedrock	1.00
		Content of large stones	0.61	Content of large stones	0.61	Too Stony	1.00
		Gravel content	0.06	Gravel content	0.06	Gravel content	1.00
Lampshire	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Gravel content	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
		Gravel content	0.46	Gravel content	0.46	Depth to bedrock	1.00
Rock outcrop	15	Not rated		Not rated		Not rated	
131:							
Rositas	80	Very limited		Very limited		Very limited	
		Flooding	1.00	Too sandy	1.00	Too sandy	1.00
		Too sandy	1.00	Slope	1.00	Slope	1.00
		Slope	1.00				

Table 4.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
132:							
Shortbread----------	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.30	Too sandy	0.30	Too sandy	0.30
						Slope	0.12
133:							
Shortbread----------	40	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Too sandy	0.30	Too sandy	0.30	Too sandy	0.30
						Slope	0.12
						Gravel content	0.04
Kurstan family------	30	Not limited		Not limited		Not limited	
Dusty---------------	20	Very limited		Very limited		Very limited	
		Sodium content	1.00	Sodium content	1.00	Sodium content	1.00
		Restricted permeability	1.00	Restricted permeability	1.00	Restricted permeability	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
134:							
Skelon family-------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Gravel content	1.00
		Gravel content	0.92	Gravel content	0.92	Slope	1.00
		Depth to cemented pan	0.90	Depth to cemented pan	0.90	Depth to cemented pan	0.90
Greyeagle family----	30	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Depth to cemented pan	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
						Slope	1.00
Detrital------------	20	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Slope	1.00	Slope	1.00	Slope	1.00

Table 4.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
135:							
Skelon family-------	60	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Depth to cemented pan	0.71	Depth to cemented pan	0.71	Depth to cemented pan	0.71
						Slope	0.12
Pinaleno family-----	30	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
						Slope	0.12
						Content of large stones	0.03
136:							
Storybook----------	80	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
137:							
Stronghold family---	45	Somewhat limited		Somewhat limited		Very limited	
		Gravel content	0.22	Gravel content	0.22	Gravel content	1.00
		Slope	0.04	Slope	0.04	Slope	1.00
						Content of large stones	0.01
McAllister family---	35	Somewhat limited		Somewhat limited		Very limited	
		Gravel content	0.68	Gravel content	0.68	Gravel content	1.00
		Slope	0.04	Slope	0.04	Slope	1.00
138:							
Sunrock------------	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Gravel content	1.00
		Gravel content	1.00	Gravel content	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
						Content of large stones	0.03

Table 4.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
139:							
Sunrock----------	70	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Content of large stones	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Gravel content	1.00
		Gravel content	0.82	Gravel content	0.82	Slope	1.00
		Content of large stones	0.50	Content of large stones	0.50	Depth to bedrock	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
140:							
Superstition family-	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Gravel content	1.00
		Gravel content	1.00	Gravel content	1.00	Slope	1.00
		Too sandy	0.47	Too sandy	0.47	Content of large stones	0.54
						Too sandy	0.47
Carrwash----------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Gravel content	1.00
		Gravel content	1.00	Gravel content	1.00	Slope	1.00
		Too sandy	0.30	Too sandy	0.30	Too sandy	0.30
141:							
Taine----------	90	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Content of large stones	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Restricted permeability	0.96	Restricted permeability	0.96	Depth to bedrock	1.00
		Content of large stones	0.77	Content of large stones	0.77	Restricted permeability	0.96
		Dusty	0.50	Dusty	0.50	Gravel content	0.86

Table 4.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
142:							
Thimble	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Content of large stones	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
		Too Stony	1.00	Too Stony	1.00	Depth to bedrock	1.00
		Content of large stones	0.61	Content of large stones	0.61	Too Stony	1.00
		Restricted permeability	0.41	Restricted permeability	0.41	Gravel content	1.00
Rock outcrop	10	Not rated		Not rated		Not rated	
143:							
Tombstone family	50	Very limited		Very limited		Very limited	
		Too Stony	1.00	Too Stony	1.00	Gravel content	1.00
		Slope	0.16	Slope	0.16	Slope	1.00
		Gravel content	0.01	Gravel content	0.01	Too Stony	1.00
						Content of large stones	0.08
Caralampi family	20	Somewhat limited		Somewhat limited		Very limited	
		Too Stony	0.76	Too Stony	0.76	Gravel content	1.00
		Gravel content	0.68	Gravel content	0.68	Slope	1.00
		Slope	0.16	Slope	0.16	Too Stony	0.76
Nolam family	20	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Too Stony	0.19	Too Stony	0.19	Slope	1.00
		Slope	0.16	Slope	0.16	Content of large stones	0.20
						Too Stony	0.19
144:							
Torriorthents	80	Not rated		Not rated		Not rated	

Table 4.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
145:							
Torriorthents-------	50	Not rated		Not rated		Not rated	
Haplocambids--------	35	Not rated		Not rated		Not rated	
146:							
Torriorthents-------	70	Not rated		Not rated		Not rated	
Rock outcrop--------	15	Not rated		Not rated		Not rated	
147:							
Tovar---------------	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too Stony	1.00	Too Stony	1.00	Gravel content	1.00
		Restricted permeability	0.45	Restricted permeability	0.45	Too Stony	1.00
		Gravel content	0.01	Gravel content	0.01	Depth to bedrock	0.54
						Restricted permeability	0.45
Grandwash-----------	40	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Too Stony	1.00	Too Stony	1.00	Content of large stones	1.00
		Content of large stones	0.68	Content of large stones	0.68	Too Stony	1.00
		Restricted permeability	0.41	Restricted permeability	0.41	Gravel content	0.88
148:							
Truxton-------------	75	Very limited		Somewhat limited		Somewhat limited	
		Flooding	1.00	Dusty	0.50	Dusty	0.50
		Dusty	0.50				
Truxton, frequently flooded-----------	15	Very limited		Somewhat limited		Very limited	
		Flooding	1.00	Dusty	0.50	Flooding	1.00
		Dusty	0.50	Flooding	0.40	Dusty	0.50

Table 4.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
149:							
Tumarion	85	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Content of large stones	1.00
		Depth to cemented pan	1.00	Depth to cemented pan	1.00	Depth to bedrock	1.00
		Restricted permeability	1.00	Restricted permeability	1.00	Depth to cemented pan	1.00
		Dusty	0.50	Dusty	0.50	Restricted permeability	1.00
		Content of large stones	0.32	Content of large stones	0.32	Gravel content	1.00
150:							
Tumarion	70	Very limited		Very limited		Very limited	
		Content of large stones	1.00	Content of large stones	1.00	Content of large stones	1.00
		Depth to cemented pan	1.00	Depth to cemented pan	1.00	Slope	1.00
		Slope	1.00	Slope	1.00	Depth to cemented pan	1.00
		Too Stony	1.00	Too Stony	1.00	Too Stony	1.00
						Depth to bedrock	0.80
Nickel family	15	Very limited		Very limited		Very limited	
		Too Stony	1.00	Too Stony	1.00	Content of large stones	1.00
		Content of large stones	1.00	Content of large stones	1.00	Slope	1.00
		Slope	1.00	Slope	1.00	Too Stony	1.00
		Dusty	0.50	Dusty	0.50	Dusty	0.50

Table 4.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
151:							
Tumarion	75	Very limited		Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00	Gravel content	1.00
		Gravel content	1.00	Gravel content	1.00	Depth to cemented pan	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
						Depth to bedrock	0.99
						Content of large stones	0.03
Nickel family	15	Very limited		Very limited		Very limited	
		Content of large stones	1.00	Content of large stones	1.00	Content of large stones	1.00
		Too Stony	1.00	Too Stony	1.00	Too Stony	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Dusty	0.50	Dusty	0.50	Dusty	0.50
152:							
Tyro	90	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Content of large stones	1.00
		Depth to cemented pan	1.00	Depth to cemented pan	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Depth to cemented pan	1.00
		Content of large stones	0.32	Content of large stones	0.32	Gravel content	1.00
		Gravel content	0.26	Gravel content	0.26	Slope	1.00
153:							
Tyro	90	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Gravel content	1.00
		Depth to cemented pan	1.00	Depth to cemented pan	1.00	Depth to bedrock	1.00
		Gravel content	1.00	Gravel content	1.00	Depth to cemented pan	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Too Stony	0.76	Too Stony	0.76	Too Stony	0.76

Table 4.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
154:							
Tyro	55	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Depth to cemented pan	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Dusty	0.50	Dusty	0.50	Slope	1.00
						Dusty	0.50
Sunrock	35	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Content of large stones	1.00
		Gravel content	0.82	Gravel content	0.82	Gravel content	1.00
		Content of large stones	0.50	Content of large stones	0.50	Depth to bedrock	1.00
						Slope	1.00
155:							
Urban land	60	Not rated		Not rated		Not rated	
Calvista family	25	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Gravel content	1.00
		Gravel content	1.00	Gravel content	1.00	Depth to bedrock	1.00
		Dusty	0.50	Dusty	0.50	Slope	0.88
						Dusty	0.50
156:							
Ustorthents	60	Not rated		Not rated		Not rated	
Rock outcrop	30	Not rated		Not rated		Not rated	
157:							
Valena	70	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
						Slope	1.00
Carri	20	Not limited		Not limited		Very limited	
						Slope	1.00
						Depth to bedrock	0.71

Table 4.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
158:							
Valena	40	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	0.84	Slope	0.84	Slope	1.00
Rock outcrop	20	Not rated		Not rated		Not rated	
Carri family	15	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.84	Slope	0.84	Slope	1.00
159:							
Vekol family	85	Somewhat limited		Somewhat limited		Very limited	
		Restricted permeability	0.94	Restricted permeability	0.94	Gravel content	1.00
		Too sandy	0.79	Too sandy	0.79	Restricted permeability	0.94
		Gravel content	0.50	Gravel content	0.50	Slope	0.88
						Too sandy	0.79
160:							
Vekol family	80	Somewhat limited		Somewhat limited		Somewhat limited	
		Restricted permeability	0.96	Restricted permeability	0.96	Restricted permeability	0.96
		Dusty	0.50	Dusty	0.50	Dusty	0.50
161:							
Vekol family	50	Somewhat limited		Somewhat limited		Very limited	
		Restricted permeability	0.96	Restricted permeability	0.96	Content of large stones	1.00
		Content of large stones	0.26	Content of large stones	0.26	Restricted permeability	0.96
						Slope	0.88
						Gravel content	0.63

Table 4.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
161:							
Whitehills----------	35	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Depth to cemented pan	0.71	Depth to cemented pan	0.71	Slope	0.88
		Dusty	0.50	Dusty	0.50	Depth to cemented pan	0.71
		Restricted permeability	0.15	Restricted permeability	0.15	Dusty	0.50
						Restricted permeability	0.15
162:							
Vock----------	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Too Stony	1.00	Too Stony	1.00	Too Stony	1.00
		Content of large stones	0.20	Content of large stones	0.20	Content of large stones	1.00
						Gravel content	0.73
Elements----------	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Content of large stones	1.00
		Content of large stones	0.50	Content of large stones	0.50	Slope	1.00
		Gravel content	0.08	Gravel content	0.08	Gravel content	1.00
Rock outcrop--------	10	Not rated		Not rated		Not rated	
163:							
Vock----------	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Too Stony	1.00	Too Stony	1.00	Too Stony	1.00
		Content of large stones	0.20	Content of large stones	0.20	Content of large stones	1.00
						Gravel content	0.73

Table 4.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
163:							
Elements	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Content of large stones	1.00
		Content of large stones	0.50	Content of large stones	0.50	Slope	1.00
		Gravel content	0.08	Gravel content	0.08	Gravel content	1.00
Rock outcrop	10	Not rated		Not rated		Not rated	
164:							
Water	100	Not rated		Not rated		Not rated	
165:							
White House	85	Somewhat limited		Somewhat limited		Very limited	
		Too sandy	0.79	Too sandy	0.79	Gravel content	1.00
		Gravel content	0.41	Gravel content	0.41	Slope	1.00
		Restricted permeability	0.39	Restricted permeability	0.39	Too sandy	0.79
		Slope	0.04	Slope	0.04	Restricted permeability	0.39
166:							
White House family	85	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Too sandy	0.79	Too sandy	0.79	Slope	1.00
		Restricted permeability	0.45	Restricted permeability	0.45	Too sandy	0.79
		Slope	0.04	Slope	0.04	Restricted permeability	0.45
167:							
Whitehills	80	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Depth to cemented pan	0.71	Depth to cemented pan	0.71	Depth to cemented pan	0.71
		Dusty	0.50	Dusty	0.50	Dusty	0.50
		Restricted permeability	0.15	Restricted permeability	0.15	Restricted permeability	0.15
						Slope	0.12

Table 4.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
168:							
Wodomont	50	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Content of large stones	1.00
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Too Stony	1.00	Too Stony	1.00	Slope	1.00
		Content of large stones	0.68	Content of large stones	0.68	Gravel content	1.00
		Gravel content	0.01	Gravel content	0.01	Too Stony	1.00
Kydestea	25	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Gravel content	1.00
		Gravel content	1.00	Gravel content	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Dusty	0.50	Dusty	0.50	Dusty	0.50
						Content of large stones	0.32
169:							
Wodomont	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Content of large stones	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
		Too Stony	1.00	Too Stony	1.00	Depth to bedrock	1.00
		Content of large stones	0.68	Content of large stones	0.68	Gravel content	1.00
		Gravel content	0.01	Gravel content	0.01	Too Stony	1.00
Metuck	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Content of large stones	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
		Content of large stones	1.00	Content of large stones	1.00	Depth to bedrock	1.00
		Too Stony	1.00	Too Stony	1.00	Too Stony	1.00
						Gravel content	0.22

Table 4.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
169:							
Rock outcrop--------	15	Not rated		Not rated		Not rated	
170:							
Wodomont----------	70	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Gravel content	1.00
		Gravel content	1.00	Gravel content	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
171:							
Yahana family-------	85	Very limited		Very limited		Very limited	
		Sodium content	1.00	Sodium content	1.00	Sodium content	1.00
		Salinity	1.00	Salinity	1.00	Salinity	1.00
		Restricted permeability	0.94	Restricted permeability	0.94	Restricted permeability	0.94
172:							
Zibate family-------	75	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Gravel content	1.00
		Gravel content	1.00	Gravel content	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Too Stony	0.76	Too Stony	0.76	Too Stony	0.76
		Dusty	0.50	Dusty	0.50	Dusty	0.50
173:							
Zibate family-------	80	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Content of large stones	1.00
		Too Stony	1.00	Too Stony	1.00	Slope	1.00
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Content of large stones	0.82	Content of large stones	0.82	Too Stony	1.00
		Dusty	0.50	Dusty	0.50	Dusty	0.50

Table 4.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
174:							
Zibate family-------	45	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
		Too Stony	1.00	Too Stony	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Too Stony	1.00
		Dusty	0.50	Dusty	0.50	Content of large stones	1.00
		Restricted permeability	0.26	Restricted permeability	0.26	Gravel content	1.00
Dutchflat-----------	25	Not limited		Not limited		Very limited	
						Slope	1.00
Tumarion------------	15	Very limited		Very limited		Very limited	
		Content of large stones	1.00	Content of large stones	1.00	Content of large stones	1.00
		Depth to cemented pan	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Too Stony	1.00	Too Stony	1.00	Slope	1.00
		Slope	0.63	Slope	0.63	Too Stony	1.00
						Depth to bedrock	0.80

Table 5.--Paths, Trails, and Golf Fairways

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1:							
Alko family---------	85	Somewhat limited		Somewhat limited		Very limited	
		Dusty	0.50	Dusty	0.50	Depth to cemented pan	1.00
		Content of large stones	0.02	Content of large stones	0.02	Droughty	1.00
						Content of large stones	0.99
						Slope	0.74
2:							
Alko family---------	85	Not limited		Not limited		Very limited	
						Depth to cemented pan	1.00
						Droughty	0.99
						Gravel content	0.36
						Content of large stones	0.01
3:							
Appleseed----------	45	Somewhat limited		Somewhat limited		Very limited	
		Content of large stones	0.35	Content of large stones	0.35	Depth to bedrock	1.00
		Slope	0.32			Content of large stones	1.00
						Droughty	1.00
						Slope	1.00
Huevi---------------	40	Somewhat limited		Not limited		Very limited	
		Slope	0.32			Gravel content	1.00
						Slope	1.00
						Droughty	0.47

Table 5.--Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
4:							
Aridic Argiustolls--	60	Not rated		Not rated		Not rated	
Lithic Haplustolls--	30	Not rated		Not rated		Not rated	
5:							
Arizo----------	40	Somewhat limited		Somewhat limited		Very limited	
		Too sandy	0.42	Too sandy	0.42	Droughty	1.00
						Gravel content	0.32
Detrital----------	30	Not limited		Not limited		Somewhat limited	
						Droughty	0.97
						Gravel content	0.22
						Content of large stones	0.01
Nickel----------	20	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
						Droughty	1.00
6:							
Arizo----------	40	Somewhat limited		Somewhat limited		Very limited	
		Flooding	0.40	Flooding	0.40	Flooding	1.00
						Droughty	1.00
						Gravel content	0.50
Franconia----------	30	Not limited		Not limited		Somewhat limited	
						Droughty	0.68
						Flooding	0.60
Riverwash----------	20	Not rated		Not rated		Not rated	
7:							
Arizo----------	55	Not limited		Not limited		Very limited	
						Droughty	1.00
						Flooding	0.60
						Gravel content	0.46
Riverwash----------	35	Not rated		Not rated		Not rated	

Table 5.--Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
8:							
Arizo	50	Somewhat limited		Somewhat limited		Very limited	
		Too sandy	0.42	Too sandy	0.42	Flooding	1.00
		Flooding	0.40	Flooding	0.40	Droughty	1.00
						Gravel content	0.32
Riverwash	25	Not rated		Not rated		Not rated	
9:							
Arizo	60	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.42	Too sandy	0.42	Droughty	0.99
						Gravel content	0.32
Riverwash	30	Not rated		Not rated		Not rated	
10:							
Arizo	55	Very limited		Very limited		Very limited	
		Too sandy	1.00	Too sandy	1.00	Flooding	1.00
		Flooding	0.40	Flooding	0.40	Gravel content	1.00
		Content of large stones	0.05	Content of large stones	0.05	Content of large stones	1.00
						Droughty	0.99
						Too sandy	0.50
Riverwash	35	Not rated		Not rated		Not rated	
11:							
Azure	45	Somewhat limited		Not limited		Very limited	
		Slope	0.18			Depth to bedrock	1.00
						Droughty	1.00
						Gravel content	1.00
						Slope	1.00
Detrital	30	Somewhat limited		Not limited		Very limited	
		Slope	0.18			Gravel content	1.00
						Slope	1.00
						Droughty	0.92

Table 5.--Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
11:							
Antares	20	Somewhat limited		Somewhat limited		Very limited	
		Too Stony	0.76	Too Stony	0.76	Depth to bedrock	1.00
		Slope	0.18			Droughty	1.00
						Gravel content	1.00
						Slope	1.00
12:							
Birdsbeak	90	Very limited		Very limited		Very limited	
		Too Stony	1.00	Too Stony	1.00	Depth to bedrock	1.00
		Slope	0.92	Dusty	0.50	Droughty	1.00
		Dusty	0.50			Gravel content	1.00
						Slope	1.00
13:							
Bluebird	50	Somewhat limited		Somewhat limited		Very limited	
		Content of large stones	0.08	Content of large stones	0.08	Content of large stones	1.00
						Droughty	0.99
						Gravel content	0.01
Detrital	40	Very limited		Very limited		Very limited	
		Too Stony	1.00	Too Stony	1.00	Content of large stones	1.00
		Content of large stones	0.05	Content of large stones	0.05	Droughty	0.70
						Gravel content	0.01
14:							
Bluebird	70	Somewhat limited		Somewhat limited		Somewhat limited	
		Dusty	0.50	Dusty	0.50	Droughty	0.01
Lostman	25	Not limited		Not limited		Somewhat limited	
						Gravel content	0.32
						Droughty	0.01

Table 5.--Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
15:							
Carrizo	75	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
						Droughty	1.00
Carrizo, rarely flooded	20	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
						Droughty	1.00
16:							
Carrizo	75	Somewhat limited		Somewhat limited		Very limited	
		Too sandy	0.78	Too sandy	0.78	Droughty	1.00
						Gravel content	0.68
						Flooding	0.60
Riverwash	15	Not rated		Not rated		Not rated	
17:							
Carrizo	75	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Too Stony	0.76	Too Stony	0.76	Droughty	1.00
		Too sandy	0.30	Too sandy	0.30	Flooding	0.60
Riverwash	15	Not rated		Not rated		Not rated	
18:							
Chuckawalla	65	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Dusty	0.50	Dusty	0.50	Droughty	0.82
						Content of large stones	0.08
						Slope	0.04

Table 5.--Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
18:							
Riverbend	25	Somewhat limited		Somewhat limited		Very limited	
		Content of large stones	0.01	Content of large stones	0.01	Droughty	1.00
						Content of large stones	0.99
						Gravel content	0.65
						Slope	0.04
19:							
Circular	45	Somewhat limited		Somewhat limited		Not limited	
		Dusty	0.50	Dusty	0.50		
Circular	40	Not limited		Not limited		Somewhat limited	
						Droughty	0.02
20:							
Circular	50	Not limited		Not limited		Not limited	
Dusty	30	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Sodium content	1.00
						Ponding	1.00
21:							
Cod	90	Not limited		Not limited		Somewhat limited	
						Gravel content	0.46
						Droughty	0.09
22:							
Cordes	45	Somewhat limited		Somewhat limited		Very limited	
		Flooding	0.40	Flooding	0.40	Flooding	1.00
						Droughty	0.06
Manikan	25	Not limited		Not limited		Very limited	
						Sodium content	1.00
Riverwash	10	Not rated		Not rated		Not rated	

Table 5.--Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
23:							
Cupel	60	Very limited		Very limited		Very limited	
		Slope	1.00	Too Stony	1.00	Depth to bedrock	1.00
		Too Stony	1.00	Slope	1.00	Slope	1.00
						Droughty	1.00
						Gravel content	0.96
						Content of large stones	0.92
Rock outcrop	20	Not rated		Not rated		Not rated	
24:							
Cyclopic	80	Very limited		Very limited		Very limited	
		Too Stony	1.00	Too Stony	1.00	Content of large stones	1.00
		Content of large stones	0.98	Content of large stones	0.98	Droughty	1.00
						Depth to cemented pan	0.84
25:							
Deluge	50	Not limited		Not limited		Very limited	
						Droughty	1.00
						Gravel content	1.00
						Depth to cemented pan	0.90
Gotchell	17	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Depth to cemented pan	1.00
						Gravel content	1.00
						Droughty	1.00
						Depth to bedrock	0.65

Table 5.--Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
25:							
Sunstroke	13	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
						Droughty	1.00
						Depth to cemented pan	0.90
26:							
Detrital	45	Not limited		Not limited		Very limited	
						Gravel content	1.00
						Droughty	0.92
Bluebird	35	Not limited		Not limited		Very limited	
						Gravel content	1.00
						Droughty	0.96
						Content of large stones	0.38
27:							
Detrital	55	Not limited		Not limited		Somewhat limited	
						Droughty	0.91
						Gravel content	0.32
Nealy	35	Somewhat limited		Somewhat limited		Somewhat limited	
		Dusty	0.50	Dusty	0.50	Gravel content	0.32
						Droughty	0.23
						Depth to cemented pan	0.20
28:							
Detrital	60	Not limited		Not limited		Somewhat limited	
						Droughty	0.90
						Gravel content	0.32
Nickel	35	Not limited		Not limited		Very limited	
						Droughty	1.00
						Gravel content	1.00

Table 5.--Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
29:							
Detrital	60	Very limited Too Stony	1.00	Very limited Too Stony	1.00	Somewhat limited Droughty Gravel content	0.79 0.32
Nickel family	25	Not limited		Not limited		Somewhat limited Droughty Gravel content	0.48 0.46
30:							
Detrital	50	Not limited		Not limited		Very limited Gravel content Droughty	1.00 0.92
Skelon family	30	Not limited		Not limited		Very limited Droughty Gravel content Depth to cemented pan Content of large stones	1.00 1.00 0.97 0.08
31:							
Dusty	70	Very limited Ponding	1.00	Very limited Ponding	1.00	Very limited Sodium content Carbonate content Ponding	1.00 1.00 1.00
Kurstan family	15	Not limited		Not limited		Not limited	
32:							
Dutchflat	80	Not limited		Not limited		Not limited	

Table 5.--Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
33:							
Dye	50	Very limited		Very limited		Very limited	
		Too Stony	1.00	Too Stony	1.00	Depth to bedrock	1.00
		Content of large stones	0.46	Content of large stones	0.46	Droughty	1.00
		Slope	0.02			Slope	1.00
						Content of large stones	1.00
						Gravel content	0.14
Tovar	20	Very limited		Very limited		Very limited	
		Too Stony	1.00	Too Stony	1.00	Gravel content	1.00
		Slope	0.02	Too sandy	0.01	Slope	1.00
		Too sandy	0.01	Content of large stones	0.01	Content of large stones	0.99
		Content of large stones	0.01			Depth to bedrock	0.10
Rock outcrop	15	Not rated		Not rated		Not rated	
34:							
Faraway	70	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
						Gravel content	1.00
						Droughty	1.00
Rock outcrop	20	Not rated		Not rated		Not rated	
35:							
Fig	50	Very limited		Very limited		Very limited	
		Slope	1.00	Too Stony	1.00	Depth to bedrock	1.00
		Too Stony	1.00	Content of large stones	1.00	Slope	1.00
		Content of large stones	1.00	Slope	1.00	Content of large stones	1.00
						Droughty	1.00

Table 5.--Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
35:							
Blind	25	Very limited		Very limited		Very limited	
		Slope	1.00	Too Stony	1.00	Slope	1.00
		Too Stony	1.00	Slope	1.00	Content of large stones	1.00
		Content of large stones	0.88	Content of large stones	0.88	Droughty	0.43
Nodman	15	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Content of large stones	0.82	Content of large stones	0.82	Slope	1.00
						Content of large stones	1.00
						Droughty	1.00
36:							
Filaree	80	Not limited		Not limited		Somewhat limited	
						Gravel content	0.46
						Droughty	0.09
37:							
Filaree	60	Not limited		Not limited		Somewhat limited	
						Gravel content	0.46
						Droughty	0.09
Dutchflat	30	Not limited		Not limited		Not limited	
38:							
Garnet	50	Not limited		Not limited		Somewhat limited	
						Gravel content	0.32
						Droughty	0.04
Dutchflat	40	Not limited		Not limited		Not limited	
39:							
Goesling family	75	Somewhat limited		Somewhat limited		Not limited	
		Dusty	0.50	Dusty	0.50		

Table 5.--Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
40:							
Goldroad	75	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Too Stony	0.19	Depth to bedrock	1.00
		Too Stony	0.19	Content of large stones	0.01	Slope	1.00
		Content of large stones	0.01			Droughty	1.00
						Content of large stones	0.99
						Gravel content	0.91
Rock outcrop	10	Not rated		Not rated		Not rated	
41:							
Goldroad	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Too Stony	0.19	Too Stony	0.19	Slope	1.00
		Content of large stones	0.01	Content of large stones	0.01	Droughty	1.00
						Content of large stones	0.99
						Gravel content	0.91
Rock outcrop	20	Not rated		Not rated		Not rated	
42:							
Gonzales	60	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Content of large stones	0.18	Depth to bedrock	1.00
		Content of large stones	0.18			Slope	1.00
						Content of large stones	1.00
						Droughty	0.97
Rock outcrop	25	Not rated		Not rated		Not rated	

Table 5.--Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
43:							
Goodsprings family--	75	Somewhat limited		Not limited		Very limited	
		Slope	0.92			Depth to cemented pan	1.00
						Slope	1.00
						Droughty	0.99
						Gravel content	0.68
44:							
Gotchell----------	50	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Depth to cemented pan	1.00
		Slope	0.68			Gravel content	1.00
						Droughty	1.00
						Slope	1.00
						Depth to bedrock	0.65
Sunstroke----------	30	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Slope	0.68			Droughty	1.00
						Slope	1.00
						Depth to cemented pan	0.90
45:							
Graham----------	60	Very limited		Very limited		Very limited	
		Too Stony	1.00	Too Stony	1.00	Depth to bedrock	1.00
		Content of large stones	0.54	Content of large stones	0.54	Content of large stones	1.00
		Dusty	0.50	Dusty	0.50	Droughty	0.98
						Gravel content	0.10
						Slope	0.04

Table 5.--Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
45:							
Arivaca	25	Very limited		Very limited		Very limited	
		Too Stony	1.00	Too Stony	1.00	Content of large stones	1.00
		Content of large stones	0.32	Content of large stones	0.32	Depth to bedrock	0.42
						Slope	0.04
						Gravel content	0.02
						Droughty	0.01
46:							
Graham	60	Very limited		Very limited		Very limited	
		Too Stony	1.00	Too Stony	1.00	Depth to bedrock	1.00
		Slope	1.00	Content of large stones	0.54	Content of large stones	1.00
		Content of large stones	0.54	Dusty	0.50	Slope	1.00
		Dusty	0.50			Droughty	0.98
						Gravel content	0.10
Rock outcrop	20	Not rated		Not rated		Not rated	
47:							
Grandwash	85	Very limited		Very limited		Very limited	
		Content of large stones	1.00	Content of large stones	1.00	Depth to bedrock	1.00
		Too Stony	1.00	Too Stony	1.00	Content of large stones	1.00
						Droughty	1.00
						Slope	0.96

Table 5.--Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
48:							
Greyeagle family----	80	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Depth to cemented pan	1.00
		Slope	1.00	Too Stony	1.00	Slope	1.00
		Too Stony	1.00	Slope	0.08	Gravel content	1.00
						Droughty	1.00
						Content of large stones	0.54
49:							
Greyeagle family----	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to cemented pan	1.00
		Gravel content	1.00	Gravel content	1.00	Slope	1.00
		Too Stony	0.76	Too Stony	0.76	Gravel content	1.00
						Droughty	1.00
						Content of large stones	0.46
50:							
Greyeagle family----	70	Not limited		Not limited		Very limited	
						Depth to cemented pan	1.00
						Droughty	1.00
						Gravel content	0.97
						Content of large stones	0.54
Cyclopic----------	20	Somewhat limited		Somewhat limited		Very limited	
		Too Stony	0.76	Too Stony	0.76	Droughty	1.00
						Gravel content	1.00
						Depth to cemented pan	0.79
						Content of large stones	0.32

Table 5.--Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
51:							
Greyeagle family----	70	Not limited		Not limited		Very limited	
						Depth to cemented pan	1.00
						Gravel content	1.00
						Droughty	1.00
Skelon family-------	20	Not limited		Not limited		Very limited	
						Gravel content	1.00
						Droughty	0.97
						Depth to cemented pan	0.90
52:							
Greyeagle family----	60	Very limited Too Stony	1.00	Very limited Too Stony	1.00	Very limited	
						Depth to cemented pan	1.00
						Gravel content	1.00
						Droughty	1.00
						Slope	1.00
						Content of large stones	0.61
Skelon family-------	20	Not limited		Not limited		Very limited	
						Droughty	1.00
						Gravel content	1.00
						Slope	1.00
						Depth to cemented pan	0.90
						Content of large stones	0.08
53:							
Gypsids------------	90	Not rated		Not rated		Not rated	

Table 5.--Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
54:							
Haplogypsids, eroded	70	Not rated		Not rated		Not rated	
Haplogypsids	30	Not rated		Not rated		Not rated	
55:							
Hassell family	50	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.50	Dusty	0.50	Slope	1.00
		Dusty	0.50			Depth to bedrock	0.42
Lampshire	25	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Dusty	0.50	Depth to bedrock	1.00
		Dusty	0.50			Slope	1.00
						Droughty	1.00
						Gravel content	1.00
Rock outcrop	20	Not rated		Not rated		Not rated	
56:							
Hindu	60	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Content of large stones	0.88	Depth to bedrock	1.00
		Content of large stones	0.88	Dusty	0.50	Content of large stones	1.00
		Dusty	0.50			Droughty	1.00
						Slope	1.00
						Gravel content	0.07
Rock outcrop	20	Not rated		Not rated		Not rated	
57:							
Hooks family	45	Somewhat limited		Somewhat limited		Not limited	
		Too sandy	0.01	Too sandy	0.01		
Courtland family	40	Not limited		Not limited		Not limited	
58:							
Hosta family	75	Not limited		Not limited		Not limited	

Table 5.--Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
59:							
House Mountain family	40	Somewhat limited		Not limited		Very limited	
		Slope	0.92			Depth to bedrock	1.00
						Gravel content	1.00
						Droughty	1.00
						Slope	1.00
Calvista family	30	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.92	Dusty	0.50	Depth to bedrock	1.00
		Dusty	0.50			Droughty	1.00
						Gravel content	1.00
						Slope	1.00
Rock outcrop	20	Not rated		Not rated		Not rated	
60:							
Huevi	90	Very limited		Very limited		Very limited	
		Too Stony	1.00	Too Stony	1.00	Content of large stones	1.00
		Content of large stones	1.00	Content of large stones	1.00	Droughty	0.42
61:							
Huevi	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.92	Dusty	0.50	Gravel content	1.00
		Dusty	0.50			Slope	1.00
						Droughty	0.98
62:							
Huevi	80	Very limited		Not limited		Very limited	
		Slope	1.00			Slope	1.00
						Droughty	1.00
						Gravel content	1.00

Table 5.--Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
63:							
Huevi	65	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Dusty	0.50	Dusty	0.50	Droughty	0.96
						Slope	0.84
Carrizo	15	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
						Droughty	1.00
						Content of large stones	0.01
64:							
Huevi	65	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Slope	0.18			Slope	1.00
						Droughty	0.99
Carrwash	20	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Slope	1.00
		Slope	1.00	Too sandy	1.00	Gravel content	1.00
		Too sandy	1.00	Slope	0.99	Droughty	1.00
						Too sandy	0.50
65:							
Huevi	50	Very limited		Very limited		Very limited	
		Content of large stones	1.00	Content of large stones	1.00	Slope	1.00
		Slope	1.00	Slope	1.00	Content of large stones	1.00
						Droughty	0.13

Table 5.--Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
65:							
Sunrock	30	Very limited		Very limited		Very limited	
		Slope	1.00	Too Stony	1.00	Depth to bedrock	1.00
		Too Stony	1.00	Slope	0.92	Slope	1.00
		Content of large stones	0.32	Content of large stones	0.32	Content of large stones	1.00
						Droughty	1.00
						Gravel content	0.26
Rock outcrop	10	Not rated		Not rated		Not rated	
66:							
Hulda	75	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Too Stony	0.76	Too Stony	0.76	Gravel content	1.00
						Droughty	1.00
67:							
Hulda	70	Very limited		Very limited		Very limited	
		Too Stony	1.00	Too Stony	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Content of large stones	0.88	Content of large stones	0.88	Content of large stones	1.00
						Droughty	1.00
Rock outcrop	20	Not rated		Not rated		Not rated	
68:							
Hulda	50	Very limited		Very limited		Very limited	
		Slope	1.00	Too Stony	1.00	Depth to bedrock	1.00
		Too Stony	1.00	Content of large stones	0.98	Slope	1.00
		Content of large stones	0.98	Slope	0.78	Content of large stones	1.00
						Droughty	1.00
Rock outcrop	35	Not rated		Not rated		Not rated	

Table 5.--Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
69:							
Ireteba family------	45	Not limited		Not limited		Somewhat limited	
						Gravel content	0.50
						Droughty	0.04
Arizo---------------	30	Somewhat limited		Somewhat limited		Very limited	
		Flooding	0.40	Flooding	0.40	Flooding	1.00
						Droughty	1.00
						Gravel content	0.50
70:							
Jagerson------------	85	Not limited		Not limited		Somewhat limited	
						Gravel content	0.50
						Droughty	0.01
71:							
Jagerson------------	45	Not limited		Not limited		Somewhat limited	
						Gravel content	0.46
Nealy---------------	40	Not limited		Not limited		Somewhat limited	
						Gravel content	0.50
						Droughty	0.25
						Depth to cemented pan	0.20
72:							
Kingtut-------------	45	Not limited		Not limited		Very limited	
						Depth to cemented pan	1.00
						Droughty	1.00
						Gravel content	1.00
						Depth to bedrock	0.20
Promontory----------	35	Not limited		Not limited		Very limited	
						Depth to bedrock	1.00
						Depth to cemented pan	1.00
						Droughty	0.98
						Gravel content	0.92

Table 5.--Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73:							
Kinley	75	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Too sandy	0.79	Slope	1.00
		Too sandy	0.79			Gravel content	0.50
74:							
Kurstan family	60	Not limited		Not limited		Not limited	
Dusty	30	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Sodium content	1.00
						Carbonate content	1.00
						Ponding	1.00
75:							
Lampshire	65	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
						Slope	1.00
						Droughty	1.00
						Gravel content	0.46
Rock outcrop	20	Not rated		Not rated		Not rated	
76:							
Lostman	80	Not limited		Not limited		Somewhat limited	
						Droughty	0.46
						Gravel content	0.32
77:							
Lostman	80	Not limited		Not limited		Somewhat limited	
						Droughty	0.29
78:							
Luzena	45	Somewhat limited		Somewhat limited		Very limited	
		Content of large stones	0.92	Content of large stones	0.92	Depth to bedrock	1.00
		Dusty	0.50	Dusty	0.50	Content of large stones	1.00
						Droughty	1.00
						Slope	0.63
						Gravel content	0.03

Table 5.--Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
78:							
Thunderbird---------	30	Somewhat limited		Somewhat limited		Very limited	
		Content of large stones	0.08	Content of large stones	0.08	Content of large stones	1.00
						Slope	0.63
						Depth to bedrock	0.42
						Droughty	0.10
						Gravel content	0.02
79:							
Lykorly-------------	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Dusty	0.50	Dusty	0.50	Gravel content	0.02
80:							
Lykorly-------------	75	Somewhat limited		Somewhat limited		Not limited	
		Dusty	0.50	Dusty	0.50		
81:							
Manikan-------------	60	Not limited		Not limited		Very limited	
						Sodium content	1.00
Nuffel--------------	25	Not limited		Not limited		Not limited	
82:							
Mathis family-------	55	Very limited		Very limited		Very limited	
		Too Stony	1.00	Too Stony	1.00	Flooding	1.00
		Content of large stones	1.00	Content of large stones	1.00	Content of large stones	1.00
		Flooding	0.40	Flooding	0.40	Droughty	0.99
Riverwash-----------	35	Not rated		Not rated		Not rated	
83:							
Mayswell------------	75	Somewhat limited		Not limited		Very limited	
		Slope	0.92			Depth to bedrock	1.00
						Slope	1.00
						Droughty	0.99
						Content of large stones	0.68

Table 5.--Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
83:							
Rock outcrop--------	15	Not rated		Not rated		Not rated	
84:							
Meadview----------	80	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.92	Too Stony	0.76	Droughty	1.00
		Too Stony	0.76	Content of large stones	0.18	Content of large stones	1.00
		Content of large stones	0.18			Slope	1.00
						Gravel content	0.61
85:							
Meadview----------	60	Very limited		Very limited		Very limited	
		Too Stony	1.00	Too Stony	1.00	Droughty	1.00
		Content of large stones	0.16	Content of large stones	0.16	Content of large stones	1.00
						Slope	1.00
Yurm family---------	30	Not limited		Not limited		Very limited	
						Depth to cemented pan	1.00
						Droughty	1.00
						Gravel content	0.99
						Content of large stones	0.68
86:							
Meriwhitica---------	65	Very limited		Very limited		Very limited	
		Slope	1.00	Too Stony	1.00	Depth to bedrock	1.00
		Too Stony	1.00			Gravel content	1.00
						Droughty	1.00
						Slope	1.00
Rock outcrop--------	15	Not rated		Not rated		Not rated	

Table 5.--Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
87:							
Mextank	80	Not limited		Not limited		Very limited	
						Gravel content	1.00
						Droughty	0.99
88:							
Milkweed	50	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Depth to cemented pan	1.00
						Gravel content	1.00
						Droughty	1.00
						Slope	0.37
Quartermaster	30	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
						Depth to cemented pan	0.42
						Droughty	0.07
Buckndoe	15	Not limited		Not limited		Very limited	
						Gravel content	1.00
						Slope	0.37
						Droughty	0.17
89:							
Milok	55	Not limited		Not limited		Somewhat limited	
						Gravel content	0.41
Pastern	35	Not limited		Not limited		Very limited	
						Depth to cemented pan	1.00
						Droughty	1.00
						Gravel content	0.50
90:							
Mutang	45	Not limited		Not limited		Very limited	
						Depth to bedrock	1.00
						Droughty	0.98
						Gravel content	0.32

Table 5.--Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
90:							
Dutchflat	40	Not limited		Not limited		Not limited	
91:							
Mutang	55	Somewhat limited		Not limited		Very limited	
		Slope	0.08			Depth to bedrock	1.00
						Slope	1.00
						Droughty	0.98
						Gravel content	0.32
Wikieup	25	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Depth to bedrock	1.00
		Dusty	0.50	Dusty	0.50	Gravel content	1.00
		Slope	0.08			Droughty	1.00
						Slope	1.00
Rock outcrop	15	Not rated		Not rated		Not rated	
92:							
Nealy	60	Not limited		Not limited		Somewhat limited	
						Depth to cemented pan	0.95
						Gravel content	0.46
						Droughty	0.23
Shamock family	30	Not limited		Not limited		Somewhat limited	
						Depth to cemented pan	0.95
						Gravel content	0.46
						Droughty	0.15
93:							
Nealy	40	Not limited		Not limited		Somewhat limited	
						Gravel content	0.46
						Droughty	0.29
						Depth to cemented pan	0.20

Table 5.--Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
93:							
Skelon family-------	30	Not limited		Not limited		Very limited	
						Gravel content	1.00
						Droughty	0.60
						Depth to cemented pan	0.06
Detrital------------	25	Not limited		Not limited		Somewhat limited	
						Droughty	0.90
						Gravel content	0.32
94:							
Nickel family-------	45	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.22	Slope	1.00
						Gravel content	1.00
						Droughty	0.99
Bluebird------------	25	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.22	Slope	1.00
						Gravel content	1.00
						Droughty	0.99
						Content of large stones	0.38
95:							
Nickel--------------	45	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
						Droughty	0.93
Skelon family-------	25	Not limited		Not limited		Very limited	
						Droughty	1.00
						Gravel content	1.00
						Depth to cemented pan	0.10
Detrital------------	15	Not limited		Not limited		Very limited	
						Gravel content	1.00
						Droughty	0.92

Table 5.--Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
96:							
Nickel family-------	35	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.56	Slope	1.00
		Too sandy	0.30	Too sandy	0.30	Gravel content	1.00
						Droughty	0.41
						Content of large stones	0.08
Topawa family-------	30	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Too sandy	0.72	Slope	1.00
		Too sandy	0.72	Slope	0.56	Gravel content	1.00
						Droughty	0.80
Eba family----------	25	Somewhat limited		Not limited		Very limited	
		Slope	0.18			Gravel content	1.00
						Slope	1.00
						Droughty	0.63
						Content of large stones	0.03
97:							
Nodman--------------	40	Not limited		Not limited		Very limited	
						Depth to bedrock	1.00
						Gravel content	1.00
						Droughty	1.00
Antares-------------	35	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Depth to bedrock	1.00
						Gravel content	1.00
						Droughty	1.00
98:							
Nodman--------------	60	Not limited		Not limited		Very limited	
						Depth to bedrock	1.00
						Droughty	1.00
						Gravel content	0.68
						Slope	0.04

Table 5.--Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
98:							
Courtland family----	25	Not limited		Not limited		Somewhat limited	
						Depth to bedrock	0.54
						Gravel content	0.32
						Slope	0.04
99:							
Nodman----------	65	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.22	Depth to bedrock	1.00
						Slope	1.00
						Droughty	1.00
						Gravel content	0.92
Rock outcrop--------	20	Not rated		Not rated		Not rated	
100:							
Nodman----------	60	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Too Stony	0.76	Depth to bedrock	1.00
		Too Stony	0.76	Slope	0.22	Slope	1.00
						Droughty	1.00
						Content of large stones	0.08
						Gravel content	0.01
Romero family-------	20	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.78	Depth to bedrock	1.00
						Slope	1.00
						Droughty	1.00
						Gravel content	1.00
						Content of large stones	0.01
101:							
Nolam family--------	35	Somewhat limited		Somewhat limited		Very limited	
		Content of large stones	0.32	Content of large stones	0.32	Content of large stones	1.00
						Droughty	0.59
						Gravel content	0.02

Table 5.--Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
101:							
Ustalfic Petrocalcids-------	30	Somewhat limited		Somewhat limited		Somewhat limited	
		Too Stony	0.19	Too Stony	0.19	Gravel content	0.55
						Content of large stones	0.32
						Droughty	0.01
						Depth to cemented pan	0.01
Caralampi family----	25	Very limited		Very limited		Somewhat limited	
		Too Stony	1.00	Too Stony	1.00	Content of large stones	0.92
		Dusty	0.50	Dusty	0.50	Droughty	0.40
102:							
Ohaco family--------	50	Not limited		Not limited		Somewhat limited	
						Depth to cemented pan	0.10
Bluebird------------	40	Not limited		Not limited		Very limited	
						Gravel content	1.00
						Droughty	0.99
						Content of large stones	0.38
103:							
Orejano-------------	75	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
						Droughty	0.92
						Gravel content	0.92
104:							
Pantak family-------	45	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Content of large stones	0.92	Depth to bedrock	1.00
		Content of large stones	0.92	Dusty	0.50	Slope	1.00
		Dusty	0.50	Slope	0.22	Content of large stones	1.00
						Droughty	1.00

Table 5.--Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
104:							
Taine	25	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Too Stony	0.76	Depth to bedrock	1.00
		Too Stony	0.76	Slope	0.22	Slope	1.00
		Content of large stones	0.06	Content of large stones	0.06	Droughty	1.00
						Content of large stones	1.00
						Gravel content	0.99
Terino family	15	Very limited		Very limited		Very limited	
		Slope	1.00	Too Stony	1.00	Depth to cemented pan	1.00
		Too Stony	1.00	Dusty	0.50	Slope	1.00
		Dusty	0.50	Slope	0.22	Droughty	1.00
		Content of large stones	0.18	Content of large stones	0.18	Content of large stones	1.00
						Gravel content	0.61
105:							
Pastern	50	Not limited		Not limited		Very limited	
						Depth to cemented pan	1.00
						Droughty	1.00
						Slope	0.63
						Gravel content	0.50
Strych	40	Not limited		Not limited		Very limited	
						Gravel content	1.00
						Droughty	0.99
						Slope	0.63
						Content of large stones	0.01

Table 5.--Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
106:							
Peachsprings	75	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
						Slope	0.04
Havasupai	20	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Depth to cemented pan	1.00
		Slope	0.32			Gravel content	1.00
						Droughty	1.00
						Slope	1.00
						Content of large stones	0.01
107:							
Pearce	80	Very limited		Very limited		Very limited	
		Too Stony	1.00	Too Stony	1.00	Depth to bedrock	1.00
		Content of large stones	0.98	Content of large stones	0.98	Content of large stones	1.00
		Dusty	0.50	Dusty	0.50	Droughty	1.00
						Slope	0.04
108:							
Pearce	50	Very limited		Very limited		Very limited	
		Slope	1.00	Too Stony	1.00	Depth to bedrock	1.00
		Too Stony	1.00	Slope	1.00	Slope	1.00
		Content of large stones	0.98	Content of large stones	0.98	Content of large stones	1.00
		Dusty	0.50	Dusty	0.50	Droughty	1.00
Detrital	25	Very limited		Very limited		Very limited	
		Too Stony	1.00	Too Stony	1.00	Slope	1.00
		Slope	1.00	Slope	0.56	Content of large stones	1.00
		Dusty	0.50	Dusty	0.50	Droughty	0.82
		Content of large stones	0.32	Content of large stones	0.32	Gravel content	0.75
Rock outcrop	10	Not rated		Not rated		Not rated	

Table 5.--Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
109:							
Pearce	70	Very limited		Very limited		Very limited	
		Slope	1.00	Too Stony	1.00	Depth to bedrock	1.00
		Too Stony	1.00	Slope	0.78	Droughty	1.00
		Dusty	0.50	Dusty	0.50	Gravel content	1.00
						Slope	1.00
						Content of large stones	0.26
Rock outcrop	15	Not rated		Not rated		Not rated	
110:							
Pedregosa family	50	Somewhat limited		Somewhat limited		Very limited	
		Too Stony	0.76	Too Stony	0.76	Depth to cemented pan	1.00
						Droughty	1.00
						Gravel content	0.68
						Content of large stones	0.68
Tombstone family	40	Not limited		Not limited		Very limited	
						Carbonate content	1.00
						Droughty	0.64
						Gravel content	0.32
111:							
Pidineen family	65	Not limited		Not limited		Very limited	
						Depth to cemented pan	1.00
						Droughty	1.00
						Gravel content	0.32
Tricon family	15	Not limited		Not limited		Somewhat limited	
						Depth to cemented pan	0.99
						Droughty	0.04
112:							
Pits-dumps, mine	100	Not rated		Not rated		Not rated	

Table 5.--Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
113:							
Playa	100	Not rated		Not rated		Not rated	
114:							
Prieta	75	Somewhat limited		Somewhat limited		Very limited	
		Content of large stones	0.92	Content of large stones	0.92	Depth to bedrock	1.00
		Dusty	0.50	Dusty	0.50	Content of large stones	1.00
		Slope	0.32			Droughty	1.00
						Slope	1.00
						Gravel content	0.03
Rock outcrop	15	Not rated		Not rated		Not rated	
115:							
Quagwa	85	Somewhat limited		Somewhat limited		Not limited	
		Dusty	0.50	Dusty	0.50		
116:							
Razorback	90	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Depth to bedrock	1.00
		Slope	1.00			Slope	1.00
						Gravel content	1.00
						Droughty	1.00
						Content of large stones	0.01
117:							
Razorback	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Content of large stones	0.61	Content of large stones	0.61	Slope	1.00
		Dusty	0.50	Dusty	0.50	Content of large stones	1.00
						Droughty	1.00
						Gravel content	0.06
Rock outcrop	20	Not rated		Not rated		Not rated	

Table 5.--Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
118:							
Razorback	65	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Dusty	0.50	Dusty	0.50	Gravel content	1.00
						Droughty	1.00
Rock outcrop	30	Not rated		Not rated		Not rated	
119:							
Rift	75	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Flooding	1.00
		Dusty	0.50	Dusty	0.50	Sodium content	1.00
		Flooding	0.40	Flooding	0.40	Ponding	1.00
120:							
Rift	85	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Flooding	1.00
		Flooding	0.40	Flooding	0.40	Sodium content	1.00
						Ponding	1.00
						Salinity	0.13
121:							
Rillino family	50	Not limited		Not limited		Somewhat limited	
						Droughty	0.12
Shamock family	25	Not limited		Not limited		Somewhat limited	
						Depth to cemented pan	0.95
						Gravel content	0.46
						Droughty	0.17
Dutchflat	20	Not limited		Not limited		Not limited	
122:							
Rock outcrop	50	Not rated		Not rated		Not rated	

Table 5.--Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
122:							
Appleseed	40	Very limited		Very limited		Very limited	
		Slope	1.00	Too Stony	1.00	Depth to bedrock	1.00
		Too Stony	1.00	Slope	1.00	Slope	1.00
		Content of large stones	0.82	Content of large stones	0.82	Content of large stones	1.00
						Droughty	1.00
123:							
Rock outcrop	55	Not rated		Not rated		Not rated	
Pearce	30	Very limited		Very limited		Very limited	
		Slope	1.00	Too Stony	1.00	Depth to bedrock	1.00
		Too Stony	1.00	Slope	1.00	Slope	1.00
		Content of large stones	0.18	Content of large stones	0.18	Droughty	1.00
						Content of large stones	1.00
124:							
Rock outcrop	65	Not rated		Not rated		Not rated	
Razorback	30	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
						Gravel content	1.00
						Droughty	1.00
						Content of large stones	0.01
125:							
Rock outcrop	50	Not rated		Not rated		Not rated	
Torriorthents	40	Not rated		Not rated		Not rated	

Table 5.--Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
126:							
Rock outcrop--------	50	Not rated		Not rated		Not rated	
Torriorthents-------	40	Not rated		Not rated		Not rated	
127:							
Rock outcrop--------	50	Not rated		Not rated		Not rated	
Valena--------------	25	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Depth to bedrock	1.00
						Droughty	1.00
						Slope	1.00
Kopie family--------	20	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Depth to bedrock	1.00
						Droughty	1.00
						Slope	1.00
						Gravel content	0.50
128:							
Rolie---------------	60	Somewhat limited		Somewhat limited		Very limited	
		Dusty	0.50	Dusty	0.50	Depth to cemented pan	1.00
						Droughty	1.00
						Gravel content	1.00
						Slope	0.37
Dean----------------	25	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Dusty	0.50	Dusty	0.50	Carbonate content	1.00
						Slope	0.37
						Content of large stones	0.01

Table 5.--Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
129:							
Romero	45	Very limited		Very limited		Very limited	
		Too Stony	1.00	Too Stony	1.00	Depth to bedrock	1.00
		Slope	0.50	Content of large stones	0.26	Droughty	1.00
		Content of large stones	0.26			Content of large stones	1.00
						Slope	1.00
						Gravel content	0.36
Chiricahua	30	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Depth to bedrock	1.00
						Droughty	1.00
						Gravel content	1.00
						Slope	1.00
						Content of large stones	0.20
Rock outcrop	20	Not rated		Not rated		Not rated	
130:							
Romero	60	Very limited		Very limited		Very limited	
		Slope	1.00	Too Stony	1.00	Depth to bedrock	1.00
		Too Stony	1.00	Slope	1.00	Slope	1.00
		Content of large stones	0.61	Content of large stones	0.61	Content of large stones	1.00
						Droughty	1.00
						Gravel content	0.06
Lampshire	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
						Slope	1.00
						Droughty	1.00
						Gravel content	0.46
Rock outcrop	15	Not rated		Not rated		Not rated	

Table 5.--Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
131:							
Rositas	80	Very limited		Very limited		Very limited	
		Too sandy	1.00	Too sandy	1.00	Slope	1.00
		Slope	0.32			Droughty	0.69
						Too sandy	0.50
132:							
Shortbread	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.30	Too sandy	0.30	Droughty	0.13
133:							
Shortbread	40	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Too sandy	0.30	Too sandy	0.30	Droughty	0.15
Kurstan family	30	Not limited		Not limited		Not limited	
Dusty	20	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Sodium content	1.00
						Ponding	1.00
134:							
Skelon family	35	Somewhat limited		Not limited		Very limited	
		Slope	0.08			Droughty	1.00
						Slope	1.00
						Gravel content	0.92
						Depth to cemented pan	0.90
Greyeagle family	30	Not limited		Not limited		Very limited	
						Depth to cemented pan	1.00
						Gravel content	1.00
						Droughty	1.00

Table 5.--Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
134:							
Detrital	20	Somewhat limited		Not limited		Very limited	
		Slope	0.08			Gravel content	1.00
						Slope	1.00
						Droughty	0.92
135:							
Skelon family	60	Not limited		Not limited		Very limited	
						Droughty	1.00
						Gravel content	1.00
						Depth to cemented pan	0.71
Pinaleno family	30	Not limited		Not limited		Very limited	
						Gravel content	1.00
						Droughty	0.56
						Content of large stones	0.03
136:							
Storybook	80	Not limited		Not limited		Very limited	
						Gravel content	1.00
						Droughty	0.52
137:							
Stronghold family	45	Not limited		Not limited		Somewhat limited	
						Gravel content	0.22
						Slope	0.04
						Content of large stones	0.01
McAllister family	35	Not limited		Not limited		Somewhat limited	
						Gravel content	0.68
						Droughty	0.04
						Slope	0.04

Table 5.--Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
138:							
Sunrock	90	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Depth to bedrock	1.00
		Slope	1.00			Slope	1.00
						Gravel content	1.00
						Droughty	1.00
						Content of large stones	0.03
139:							
Sunrock	70	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Content of large stones	0.50	Content of large stones	0.50	Slope	1.00
						Content of large stones	1.00
						Droughty	1.00
						Gravel content	0.82
Rock outcrop	20	Not rated		Not rated		Not rated	
140:							
Superstition family-	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too sandy	0.47	Too sandy	0.47	Gravel content	1.00
						Droughty	0.86
						Content of large stones	0.54
Carrwash	35	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Slope	1.00
		Slope	1.00	Slope	1.00	Gravel content	1.00
		Too sandy	0.30	Too sandy	0.30	Droughty	1.00

Table 5.--Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
141:							
Taine	90	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.98	Content of large stones	0.77	Depth to bedrock	1.00
		Content of large stones	0.77	Dusty	0.50	Content of large stones	1.00
		Dusty	0.50			Droughty	1.00
						Slope	1.00
142:							
Thimble	85	Very limited		Very limited		Very limited	
		Slope	1.00	Too Stony	1.00	Depth to bedrock	1.00
		Too Stony	1.00	Slope	1.00	Slope	1.00
		Content of large stones	0.61	Content of large stones	0.61	Content of large stones	1.00
						Droughty	1.00
						Gravel content	0.20
Rock outcrop	10	Not rated		Not rated		Not rated	
143:							
Tombstone family	50	Very limited		Very limited		Somewhat limited	
		Too Stony	1.00	Too Stony	1.00	Droughty	0.91
						Slope	0.16
						Content of large stones	0.08
						Gravel content	0.01
Caralampi family	20	Somewhat limited		Somewhat limited		Somewhat limited	
		Too Stony	0.76	Too Stony	0.76	Gravel content	0.68
						Droughty	0.37
						Slope	0.16
Nolam family	20	Somewhat limited		Somewhat limited		Very limited	
		Too Stony	0.19	Too Stony	0.19	Gravel content	1.00
						Droughty	0.80
						Content of large stones	0.20
						Slope	0.16

Table 5.--Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
144:							
Torriorthents-------	80	Not rated		Not rated		Not rated	
145:							
Torriorthents-------	50	Not rated		Not rated		Not rated	
Haplocambids--------	35	Not rated		Not rated		Not rated	
146:							
Torriorthents-------	70	Not rated		Not rated		Not rated	
Rock outcrop--------	15	Not rated		Not rated		Not rated	
147:							
Tovar---------------	50	Very limited		Very limited		Very limited	
		Too Stony	1.00	Too Stony	1.00	Slope	1.00
		Slope	0.02			Depth to bedrock	0.54
						Content of large stones	0.08
						Gravel content	0.01
Grandwash-----------	40	Very limited		Very limited		Very limited	
		Too Stony	1.00	Too Stony	1.00	Depth to bedrock	1.00
		Content of large stones	0.68	Content of large stones	0.68	Droughty	1.00
		Slope	0.02			Content of large stones	1.00
						Slope	1.00
148:							
Truxton-------------	75	Somewhat limited		Somewhat limited		Not limited	
		Dusty	0.50	Dusty	0.50		
Truxton, frequently flooded----------	15	Somewhat limited		Somewhat limited		Very limited	
		Dusty	0.50	Dusty	0.50	Flooding	1.00
		Flooding	0.40	Flooding	0.40		

Table 5.--Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
149:							
Tumarion	85	Somewhat limited		Somewhat limited		Very limited	
		Dusty	0.50	Dusty	0.50	Depth to bedrock	1.00
		Content of large stones	0.32	Content of large stones	0.32	Depth to cemented pan	1.00
						Content of large stones	1.00
						Droughty	1.00
						Slope	0.04
150:							
Tumarion	70	Very limited		Very limited		Very limited	
		Content of large stones	1.00	Content of large stones	1.00	Depth to cemented pan	1.00
		Too Stony	1.00	Too Stony	1.00	Content of large stones	1.00
		Slope	0.82			Droughty	1.00
						Slope	1.00
						Depth to bedrock	0.80
Nickel family	15	Very limited		Very limited		Very limited	
		Too Stony	1.00	Too Stony	1.00	Content of large stones	1.00
		Content of large stones	1.00	Content of large stones	1.00	Slope	1.00
		Slope	0.82	Dusty	0.50	Droughty	0.16
		Dusty	0.50				
151:							
Tumarion	75	Somewhat limited		Not limited		Very limited	
		Slope	0.92			Depth to cemented pan	1.00
						Droughty	1.00
						Gravel content	1.00
						Slope	1.00
						Depth to bedrock	0.99

Table 5.--Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
151:							
Nickel family-------	15	Very limited		Very limited		Very limited	
		Content of large stones	1.00	Content of large stones	1.00	Content of large stones	1.00
		Too Stony	1.00	Too Stony	1.00	Slope	1.00
		Slope	0.92	Dusty	0.50	Droughty	0.16
		Dusty	0.50				
152:							
Tyro----------	90	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.32	Content of large stones	0.32	Depth to bedrock	1.00
		Content of large stones	0.32			Depth to cemented pan	1.00
						Content of large stones	1.00
						Droughty	1.00
						Slope	1.00
153:							
Tyro----------	90	Somewhat limited		Somewhat limited		Very limited	
		Too Stony	0.76	Too Stony	0.76	Depth to bedrock	1.00
		Slope	0.08			Depth to cemented pan	1.00
						Droughty	1.00
						Gravel content	1.00
						Slope	1.00
154:							
Tyro----------	55	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Depth to cemented pan	1.00
		Dusty	0.50	Dusty	0.50	Gravel content	1.00
						Droughty	1.00

Table 5.--Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
154:							
Sunrock	35	Somewhat limited		Somewhat limited		Very limited	
		Content of large stones	0.50	Content of large stones	0.50	Depth to bedrock	1.00
						Content of large stones	1.00
						Droughty	1.00
						Gravel content	0.82
155:							
Urban land	60	Not rated		Not rated		Not rated	
Calvista family	25	Somewhat limited		Somewhat limited		Very limited	
		Dusty	0.50	Dusty	0.50	Depth to bedrock	1.00
						Droughty	1.00
						Gravel content	1.00
156:							
Ustorthents	60	Not rated		Not rated		Not rated	
Rock outcrop	30	Not rated		Not rated		Not rated	
157:							
Valena	70	Not limited		Not limited		Very limited	
						Depth to bedrock	1.00
						Droughty	1.00
Carri	20	Not limited		Not limited		Somewhat limited	
						Depth to bedrock	0.71
						Droughty	0.01
158:							
Valena	40	Not limited		Not limited		Very limited	
						Depth to bedrock	1.00
						Droughty	1.00
						Slope	0.84

Table 5.--Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
158:							
Rock outcrop--------	20	Not rated		Not rated		Not rated	
Carri family--------	15	Not limited		Not limited		Somewhat limited	
						Slope	0.84
159:							
Vekol family--------	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.79	Too sandy	0.79	Gravel content	0.50
160:							
Vekol family--------	80	Somewhat limited		Somewhat limited		Not limited	
		Dusty	0.50	Dusty	0.50		
161:							
Vekol family--------	50	Somewhat limited		Somewhat limited		Very limited	
		Content of large stones	0.26	Content of large stones	0.26	Content of large stones	1.00
Whitehills----------	35	Somewhat limited		Somewhat limited		Very limited	
		Dusty	0.50	Dusty	0.50	Gravel content	1.00
						Droughty	0.75
						Depth to cemented pan	0.71
						Content of large stones	0.03
162:							
Vock----------------	60	Very limited		Very limited		Very limited	
		Slope	1.00	Too Stony	1.00	Depth to bedrock	1.00
		Too Stony	1.00	Slope	1.00	Slope	1.00
		Content of large stones	0.20	Content of large stones	0.20	Droughty	1.00
						Content of large stones	1.00

Table 5.--Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
162:							
Elements	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Content of large stones	0.50	Content of large stones	0.50	Content of large stones	1.00
						Droughty	0.29
						Gravel content	0.08
Rock outcrop	10	Not rated		Not rated		Not rated	
163:							
Vock	45	Very limited		Very limited		Very limited	
		Slope	1.00	Too Stony	1.00	Depth to bedrock	1.00
		Too Stony	1.00	Slope	1.00	Slope	1.00
		Content of large stones	0.20	Content of large stones	0.20	Droughty	1.00
						Content of large stones	1.00
Elements	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Content of large stones	0.50	Content of large stones	0.50	Content of large stones	1.00
						Droughty	0.29
						Gravel content	0.08
Rock outcrop	10	Not rated		Not rated		Not rated	
164:							
Water	100	Not rated		Not rated		Not rated	
165:							
White House	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.79	Too sandy	0.79	Gravel content	0.41
						Slope	0.04

Table 5.--Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
166:							
White House family--	85	Somewhat limited		Somewhat limited		Very limited	
		Too sandy	0.79	Too sandy	0.79	Gravel content	1.00
						Slope	0.04
						Droughty	0.01
167:							
Whitehills----------	80	Somewhat limited		Somewhat limited		Very limited	
		Dusty	0.50	Dusty	0.50	Gravel content	1.00
						Droughty	0.75
						Depth to cemented pan	0.71
						Content of large stones	0.03
168:							
Wodomont----------	50	Very limited		Very limited		Very limited	
		Too Stony	1.00	Too Stony	1.00	Depth to bedrock	1.00
		Slope	0.92	Content of large stones	0.68	Content of large stones	1.00
		Content of large stones	0.68			Droughty	1.00
						Slope	1.00
						Gravel content	0.01
Kydestea----------	25	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.92	Dusty	0.50	Depth to bedrock	1.00
		Dusty	0.50			Droughty	1.00
						Gravel content	1.00
						Slope	1.00
						Content of large stones	0.32

Table 5.--Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
169:							
Wodomont	45	Very limited		Very limited		Very limited	
		Slope	1.00	Too Stony	1.00	Depth to bedrock	1.00
		Too Stony	1.00	Slope	0.78	Slope	1.00
		Content of large stones	0.68	Content of large stones	0.68	Content of large stones	1.00
						Droughty	1.00
						Gravel content	0.01
Metuck	30	Very limited		Very limited		Very limited	
		Slope	1.00	Content of large stones	1.00	Depth to bedrock	1.00
		Content of large stones	1.00	Too Stony	1.00	Slope	1.00
		Too Stony	1.00	Slope	0.78	Content of large stones	1.00
						Droughty	1.00
Rock outcrop	15	Not rated		Not rated		Not rated	
170:							
Wodomont	70	Somewhat limited		Not limited		Very limited	
		Slope	0.92			Depth to bedrock	1.00
						Droughty	1.00
						Gravel content	1.00
						Slope	1.00
Rock outcrop	20	Not rated		Not rated		Not rated	
171:							
Yahana family	85	Not limited		Not limited		Very limited	
						Salinity	1.00
						Sodium content	1.00
172:							
Zibate family	75	Somewhat limited		Somewhat limited		Very limited	
		Too Stony	0.76	Too Stony	0.76	Depth to bedrock	1.00
		Slope	0.50	Dusty	0.50	Droughty	1.00
		Dusty	0.50			Gravel content	1.00
						Slope	1.00

Table 5.--Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
173:							
Zibate family-------	80	Very limited		Very limited		Very limited	
		Too Stony	1.00	Too Stony	1.00	Depth to bedrock	1.00
		Slope	1.00	Content of large stones	0.82	Content of large stones	1.00
		Content of large stones	0.82	Dusty	0.50	Slope	1.00
		Dusty	0.50			Droughty	0.98
174:							
Zibate family-------	45	Very limited		Very limited		Very limited	
		Too Stony	1.00	Too Stony	1.00	Depth to bedrock	1.00
		Dusty	0.50	Dusty	0.50	Droughty	1.00
		Slope	0.32	Content of large stones	0.04	Content of large stones	1.00
		Content of large stones	0.04			Slope	1.00
						Gravel content	0.26
Dutchflat-----------	25	Not limited		Not limited		Not limited	
Tumarion------------	15	Very limited		Very limited		Very limited	
		Content of large stones	1.00	Content of large stones	1.00	Depth to cemented pan	1.00
		Too Stony	1.00	Too Stony	1.00	Content of large stones	1.00
						Droughty	1.00
						Depth to bedrock	0.80
						Slope	0.63

Table 6.--Dwellings and Small Commercial Buildings

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1:							
Alko family---------	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.74	Slope	0.74	Slope	1.00
2:							
Alko family---------	85	Not limited		Not limited		Somewhat limited	
						Slope	0.12
3:							
Appleseed----------	45	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Content of large stones	0.95	Content of large stones	0.95	Content of large stones	0.95
Huevi---------------	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
4:							
Aridic Argiustolls--	60	Not rated		Not rated		Not rated	
Lithic Haplustolls--	30	Not rated		Not rated		Not rated	
5:							
Arizo---------------	40	Not limited		Not limited		Not limited	
Detrital------------	30	Not limited		Not limited		Not limited	
Nickel--------------	20	Not limited		Not limited		Not limited	

Table 6.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
6:							
Arizo	40	Very limited Flooding	 1.00	Very limited Flooding	 1.00	Very limited Flooding	 1.00
Franconia	30	Very limited Flooding	 1.00	Very limited Flooding	 1.00	Very limited Flooding	 1.00
Riverwash	20	Not rated		Not rated		Not rated	
7:							
Arizo	55	Very limited Flooding	 1.00	Very limited Flooding	 1.00	Very limited Flooding	 1.00
Riverwash	35	Not rated		Not rated		Not rated	
8:							
Arizo	50	Very limited Flooding	 1.00	Very limited Flooding	 1.00	Very limited Flooding	 1.00
Riverwash	25	Not rated		Not rated		Not rated	
9:							
Arizo	60	Very limited Flooding	 1.00	Very limited Flooding	 1.00	Very limited Flooding	 1.00
Riverwash	30	Not rated		Not rated		Not rated	
10:							
Arizo	55	Very limited Flooding Content of large stones	 1.00 0.20	Very limited Flooding Content of large stones	 1.00 0.20	Very limited Flooding Content of large stones	 1.00 0.20
Riverwash	35	Not rated		Not rated		Not rated	

Table 6.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
11:							
Azure	45	Very limited		Very limited		Very limited	
		Depth to soft bedrock	1.00	Depth to hard bedrock	1.00	Depth to soft bedrock	1.00
		Slope	1.00	Depth to soft bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.64	Slope	1.00	Depth to hard bedrock	0.64
Detrital	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Antares	20	Very limited		Very limited		Very limited	
		Depth to soft bedrock	1.00	Depth to soft bedrock	1.00	Depth to soft bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
12:							
Birdsbeak	90	Very limited		Very limited		Very limited	
		Depth to soft bedrock	1.00	Shrink-swell	1.00	Slope	1.00
		Shrink-swell	1.00	Depth to soft bedrock	1.00	Depth to soft bedrock	1.00
		Slope	1.00	Slope	1.00	Shrink-swell	1.00
13:							
Bluebird	50	Not limited		Not limited		Somewhat limited	
						Slope	0.88
Detrital	40	Not limited		Not limited		Somewhat limited	
						Slope	0.88
14:							
Bluebird	70	Not limited		Not limited		Not limited	
Lostman	25	Not limited		Not limited		Not limited	

Table 6.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
15:							
Carrizo	75	Not limited		Not limited		Not limited	
Carrizo, rarely flooded	20	Very limited Flooding	 1.00	Very limited Flooding	 1.00	Very limited Flooding	 1.00
16:							
Carrizo	75	Very limited Flooding	 1.00	Very limited Flooding	 1.00	Very limited Flooding	 1.00
Riverwash	15	Not rated		Not rated		Not rated	
17:							
Carrizo	75	Very limited Flooding	 1.00	Very limited Flooding	 1.00	Very limited Flooding Slope	 1.00 0.50
Riverwash	15	Not rated		Not rated		Not rated	
18:							
Chuckawalla	65	Somewhat limited Slope	 0.04	Somewhat limited Slope	 0.04	Very limited Slope	 1.00
Riverbend	25	Somewhat limited Slope	 0.04	Somewhat limited Slope	 0.04	Very limited Slope	 1.00
19:							
Circular	45	Not limited		Not limited		Not limited	
Circular	40	Not limited		Not limited		Not limited	
20:							
Circular	50	Not limited		Not limited		Not limited	
Dusty	30	Very limited Ponding Shrink-swell	 1.00 0.50	Very limited Ponding	 1.00	Very limited Ponding Shrink-swell	 1.00 0.50

Table 6.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
21:							
Cod	90	Not limited		Not limited		Not limited	
22:							
Cordes	45	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
Manikan	25	Somewhat limited		Not limited		Somewhat limited	
		Shrink-swell	0.50			Shrink-swell	0.50
Riverwash	10	Not rated		Not rated		Not rated	
23:							
Cupel	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
		Content of large stones	0.06	Content of large stones	0.06	Content of large stones	0.06
Rock outcrop	20	Not rated		Not rated		Not rated	
24:							
Cyclopic	80	Very limited		Very limited		Very limited	
		Content of large stones	1.00	Content of large stones	1.00	Content of large stones	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Slope	0.50
						Shrink-swell	0.50
25:							
Deluge	50	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
				Depth to hard bedrock	0.26	Slope	0.12

Table 6.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
25:							
Gotchell	17	Somewhat limited Depth to hard bedrock	0.64	Very limited Depth to hard bedrock	1.00	Somewhat limited Depth to hard bedrock Slope	0.64 0.12
Sunstroke	13	Not limited		Somewhat limited Depth to hard bedrock	0.84	Somewhat limited Slope	0.12
26:							
Detrital	45	Not limited		Not limited		Somewhat limited Slope	0.88
Bluebird	35	Not limited		Not limited		Somewhat limited Slope	0.88
27:							
Detrital	55	Not limited		Not limited		Not limited	
Nealy	35	Not limited		Somewhat limited Depth to thin cemented pan	0.20	Not limited	
28:							
Detrital	60	Not limited		Not limited		Not limited	
Nickel	35	Not limited		Not limited		Not limited	
29:							
Detrital	60	Not limited		Not limited		Not limited	
Nickel family	25	Not limited		Not limited		Not limited	
30:							
Detrital	50	Not limited		Not limited		Not limited	
Skelon family	30	Not limited		Not limited		Not limited	

Table 6.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
31:							
Dusty	70	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Kurstan family	15	Not limited		Not limited		Not limited	
32:							
Dutchflat	80	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
33:							
Dye	50	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Shrink-swell	1.00	Depth to hard bedrock	1.00
		Shrink-swell	1.00	Depth to hard bedrock	1.00	Shrink-swell	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
Tovar	20	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.10	Slope	1.00	Depth to hard bedrock	0.10
Rock outcrop	15	Not rated		Not rated		Not rated	
34:							
Faraway	70	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Depth to soft bedrock	1.00	Depth to soft bedrock	1.00	Depth to soft bedrock	1.00
Rock outcrop	20	Not rated		Not rated		Not rated	

Table 6.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
35:							
Fig	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to soft bedrock	1.00	Depth to soft bedrock	1.00	Depth to soft bedrock	1.00
Blind	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Content of large stones	0.03	Content of large stones	0.03	Content of large stones	0.03
Nodman	15	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to soft bedrock	1.00	Shrink-swell	1.00	Depth to soft bedrock	1.00
		Shrink-swell	1.00	Depth to soft bedrock	1.00	Shrink-swell	1.00
36:							
Filaree	80	Not limited		Not limited		Not limited	
37:							
Filaree	60	Not limited		Not limited		Not limited	
Dutchflat	30	Not limited		Not limited		Not limited	
38:							
Garnet	50	Not limited		Not limited		Not limited	
Dutchflat	40	Not limited		Not limited		Not limited	
39:							
Goesling family	75	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Slope	0.50
						Shrink-swell	0.50

Table 6.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
40:							
Goldroad	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Depth to soft bedrock	1.00	Depth to soft bedrock	1.00	Depth to soft bedrock	1.00
Rock outcrop	10	Not rated		Not rated		Not rated	
41:							
Goldroad	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Content of large stones	0.03	Content of large stones	0.03	Content of large stones	0.03
Rock outcrop	20	Not rated		Not rated		Not rated	
42:							
Gonzales	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	1.00	Shrink-swell	1.00	Depth to hard bedrock	1.00
		Depth to soft bedrock	1.00	Depth to hard bedrock	1.00	Depth to soft bedrock	1.00
		Shrink-swell	1.00	Depth to soft bedrock	1.00	Shrink-swell	1.00
Rock outcrop	25	Not rated		Not rated		Not rated	
43:							
Goodsprings family	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00

Table 6.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
44:							
Gotchell	50	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.64	Slope	1.00	Depth to hard bedrock	0.64
Sunstroke	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to hard bedrock	0.84		
45:							
Graham	60	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Shrink-swell	1.00	Depth to hard bedrock	1.00
		Shrink-swell	1.00	Depth to hard bedrock	1.00	Shrink-swell	1.00
		Slope	0.04	Slope	0.04	Slope	1.00
Arivaca	25	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
		Depth to hard bedrock	0.42	Depth to hard bedrock	1.00	Slope	1.00
		Slope	0.04	Slope	0.04	Depth to hard bedrock	0.42
46:							
Graham	60	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Shrink-swell	1.00	Slope	1.00
		Shrink-swell	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00	Shrink-swell	1.00

Table 6.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
46:							
Rock outcrop--------	20	Not rated		Not rated		Not rated	
47:							
Grandwash-----------	85	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Content of large stones	1.00	Content of large stones	1.00	Content of large stones	1.00
		Slope	0.96	Slope	0.96	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
48:							
Greyeagle family----	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Content of large stones	1.00	Content of large stones	1.00	Content of large stones	1.00
49:							
Greyeagle family----	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
50:							
Greyeagle family----	70	Not limited		Not limited		Very limited	
						Slope	1.00
Cyclopic------------	20	Somewhat limited		Somewhat limited		Very limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Slope	1.00
		Content of large stones	0.05	Content of large stones	0.05	Shrink-swell	0.50
						Content of large stones	0.05
51:							
Greyeagle family----	70	Not limited		Not limited		Somewhat limited	
						Slope	0.88

Table 6.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
51:							
Skelon family-------	20	Not limited		Not limited		Somewhat limited	
						Slope	0.88
52:							
Greyeagle family----	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Skelon family-------	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
53:							
Gypsids-------------	90	Not rated		Not rated		Not rated	
54:							
Haplogypsids, eroded	70	Not rated		Not rated		Not rated	
Haplogypsids--------	30	Not rated		Not rated		Not rated	
55:							
Hassell family------	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
				Depth to soft bedrock	0.42		
Lampshire-----------	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Depth to soft bedrock	1.00	Depth to soft bedrock	1.00	Depth to soft bedrock	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	

Table 6.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
56:							
Hindu	60	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Content of large stones	0.04	Content of large stones	0.04	Content of large stones	0.04
Rock outcrop	20	Not rated		Not rated		Not rated	
57:							
Hooks family	45	Not limited		Not limited		Not limited	
Courtland family	40	Not limited		Somewhat limited		Not limited	
				Depth to hard bedrock	0.88		
58:							
Hosta family	75	Very limited		Somewhat limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	0.78	Shrink-swell	1.00
						Slope	0.12
59:							
House Mountain family	40	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Depth to soft bedrock	1.00	Depth to soft bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00	Depth to soft bedrock	1.00
Calvista family	30	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Slope	1.00	Slope	1.00	Depth to hard bedrock	1.00

Table 6.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
59:							
Rock outcrop--------	20	Not rated		Not rated		Not rated	
60:							
Huevi---------------	90	Not limited		Not limited		Not limited	
61:							
Huevi---------------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
62:							
Huevi---------------	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
63:							
Huevi---------------	65	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.84	Slope	0.84	Slope	1.00
Carrizo-------------	15	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
64:							
Huevi---------------	65	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Carrwash------------	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
65:							
Huevi---------------	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Content of large stones	1.00	Content of large stones	1.00	Content of large stones	1.00
Sunrock-------------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00

Table 6.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
65:							
Rock outcrop--------	10	Not rated		Not rated		Not rated	
66:							
Hulda----------	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
67:							
Hulda----------	70	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
68:							
Hulda----------	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Content of large stones	1.00	Content of large stones	1.00	Content of large stones	1.00
Rock outcrop--------	35	Not rated		Not rated		Not rated	
69:							
Ireteba family------	45	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
Arizo----------	30	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
70:							
Jagerson----------	85	Not limited		Not limited		Not limited	

Table 6.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
71:							
Jagerson	45	Not limited		Not limited		Not limited	
Nealy	40	Not limited		Somewhat limited		Not limited	
				Depth to thin cemented pan	0.20		
72:							
Kingtut	45	Somewhat limited		Very limited		Very limited	
		Shrink-swell	0.50	Depth to hard bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.20	Shrink-swell	0.50	Shrink-swell	0.50
						Depth to hard bedrock	0.20
Promontory	35	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
						Slope	1.00
73:							
Kinley	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
74:							
Kurstan family	60	Not limited		Not limited		Not limited	
Dusty	30	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
75:							
Lampshire	65	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Depth to soft bedrock	1.00	Depth to soft bedrock	1.00	Depth to soft bedrock	1.00

Table 6.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
75:							
Rock outcrop	20	Not rated		Not rated		Not rated	
76:							
Lostman	80	Not limited		Not limited		Not limited	
77:							
Lostman	80	Not limited		Not limited		Not limited	
78:							
Luzena	45	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Slope	0.63	Slope	0.63	Slope	1.00
Thunderbird	30	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
		Slope	0.63	Depth to hard bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.42	Slope	0.63	Depth to hard bedrock	0.42
79:							
Lykorly	85	Somewhat limited		Very limited		Somewhat limited	
		Shrink-swell	0.50	Shrink-swell	1.00	Shrink-swell	0.50
80:							
Lykorly	75	Not limited		Not limited		Not limited	
81:							
Manikan	60	Somewhat limited		Not limited		Somewhat limited	
		Shrink-swell	0.50			Shrink-swell	0.50
Nuffel	25	Not limited		Not limited		Not limited	

Table 6.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
82:							
Mathis family-------	55	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Content of large stones	1.00	Content of large stones	1.00	Content of large stones	1.00
Riverwash-----------	35	Not rated		Not rated		Not rated	
83:							
Mayswell------------	75	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Shrink-swell	1.00	Depth to hard bedrock	1.00
		Shrink-swell	1.00	Depth to hard bedrock	1.00	Shrink-swell	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Content of large stones	0.23	Content of large stones	0.23	Content of large stones	0.23
Rock outcrop--------	15	Not rated		Not rated		Not rated	
84:							
Meadview------------	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Content of large stones	0.99	Content of large stones	0.99	Content of large stones	0.99
85:							
Meadview------------	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Content of large stones	0.18	Content of large stones	0.18	Content of large stones	0.18
Yurm family---------	30	Not limited		Not limited		Very limited	
						Slope	1.00

Table 6.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
86:							
Meriwhitica	65	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
Rock outcrop	15	Not rated		Not rated		Not rated	
87:							
Mextank	80	Not limited		Not limited		Somewhat limited	
						Slope	0.88
88:							
Milkweed	50	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Slope	1.00
Quartermaster	30	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Slope	0.88
						Shrink-swell	0.50
Buckndoe	15	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Slope	1.00
89:							
Milok	55	Not limited		Not limited		Very limited	
						Slope	1.00
Pastern	35	Not limited		Not limited		Very limited	
						Slope	1.00
90:							
Mutang	45	Very limited		Very limited		Very limited	
		Depth to soft bedrock	1.00	Shrink-swell	1.00	Depth to soft bedrock	1.00
		Shrink-swell	1.00	Depth to hard bedrock	1.00	Shrink-swell	1.00
		Depth to hard bedrock	0.97	Depth to soft bedrock	1.00	Depth to hard bedrock	0.97

Table 6.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
90:							
Dutchflat	40	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
91:							
Mutang	55	Very limited		Very limited		Very limited	
		Depth to soft bedrock	1.00	Shrink-swell	1.00	Depth to soft bedrock	1.00
		Shrink-swell	1.00	Depth to hard bedrock	1.00	Shrink-swell	1.00
		Slope	1.00	Depth to soft bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.97	Slope	1.00	Depth to hard bedrock	0.97
Wikieup	25	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
Rock outcrop	15	Not rated		Not rated		Not rated	
92:							
Nealy	60	Not limited		Not limited		Somewhat limited	
						Slope	0.12
Shamock family	30	Not limited		Not limited		Somewhat limited	
						Slope	0.12
93:							
Nealy	40	Not limited		Somewhat limited		Somewhat limited	
				Depth to thin cemented pan	0.20	Slope	0.88
Skelon family	30	Not limited		Not limited		Somewhat limited	
						Slope	0.88
Detrital	25	Not limited		Not limited		Somewhat limited	
						Slope	0.88

Table 6.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
94:							
Nickel family-------	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Bluebird------------	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
95:							
Nickel--------------	45	Not limited		Not limited		Somewhat limited	
						Slope	0.88
Skelon family-------	25	Not limited		Not limited		Somewhat limited	
						Slope	0.88
Detrital------------	15	Not limited		Not limited		Somewhat limited	
						Slope	0.88
96:							
Nickel family-------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Topawa family-------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Eba family----------	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
97:							
Nodman--------------	40	Somewhat limited		Very limited		Very limited	
		Depth to soft bedrock	1.00	Depth to hard bedrock	1.00	Depth to soft bedrock	1.00
		Shrink-swell	0.50	Depth to soft bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.11	Shrink-swell	0.50	Shrink-swell	0.50
						Depth to hard bedrock	0.11

Table 6.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
97:							
Antares	35	Somewhat limited		Very limited		Very limited	
		Depth to soft bedrock	1.00	Depth to soft bedrock	1.00	Depth to soft bedrock	1.00
				Depth to hard bedrock	0.99	Slope	1.00
98:							
Nodman	60	Somewhat limited		Very limited		Very limited	
		Depth to soft bedrock	1.00	Depth to soft bedrock	1.00	Depth to soft bedrock	1.00
		Shrink-swell	0.78	Shrink-swell	0.78	Slope	1.00
		Slope	0.04	Slope	0.04	Shrink-swell	0.78
Courtland family	25	Somewhat limited		Very limited		Very limited	
		Shrink-swell	0.78	Depth to hard bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.54	Shrink-swell	0.78	Shrink-swell	0.78
		Slope	0.04	Slope	0.04	Depth to hard bedrock	0.54
99:							
Nodman	65	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to soft bedrock	1.00	Depth to soft bedrock	1.00	Depth to soft bedrock	1.00
		Shrink-swell	0.78	Shrink-swell	0.78	Shrink-swell	0.78
Rock outcrop	20	Not rated		Not rated		Not rated	
100:							
Nodman	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to soft bedrock	1.00	Depth to soft bedrock	1.00	Depth to soft bedrock	1.00
		Shrink-swell	0.78	Shrink-swell	0.78	Shrink-swell	0.78
		Content of large stones	0.55	Content of large stones	0.55	Content of large stones	0.55

Table 6.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
100:							
Romero family-------	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to soft bedrock	1.00	Depth to hard bedrock	1.00	Depth to soft bedrock	1.00
		Depth to hard bedrock	0.99	Depth to soft bedrock	1.00	Depth to hard bedrock	0.99
		Content of large stones	0.75	Content of large stones	0.75	Content of large stones	0.75
101:							
Nolam family--------	35	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.78	Shrink-swell	0.78	Shrink-swell	0.78
Ustalfic Petrocalcids-------	30	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.78	Shrink-swell	0.78	Shrink-swell	0.78
Caralampi family----	25	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.78	Shrink-swell	0.78	Shrink-swell	0.78
102:							
Ohaco family--------	50	Not limited		Not limited		Somewhat limited	
						Slope	0.12
Bluebird------------	40	Not limited		Not limited		Somewhat limited	
						Slope	0.12
103:							
Orejano-------------	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
104:							
Pantak family-------	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Content of large stones	1.00	Content of large stones	1.00	Content of large stones	1.00
		Shrink-swell	0.78	Shrink-swell	0.78	Shrink-swell	0.78

Table 6.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
104:							
Taine	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	1.00	Shrink-swell	1.00	Depth to hard bedrock	1.00
		Content of large stones	1.00	Depth to hard bedrock	1.00	Content of large stones	1.00
		Shrink-swell	1.00	Content of large stones	1.00	Shrink-swell	1.00
Terino family	15	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.78	Depth to hard bedrock	1.00	Shrink-swell	0.78
		Content of large stones	0.68	Shrink-swell	0.78	Content of large stones	0.68
		Depth to hard bedrock	0.10	Content of large stones	0.68	Depth to hard bedrock	0.10
105:							
Pastern	50	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
Strych	40	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
106:							
Peachsprings	75	Somewhat limited		Somewhat limited		Very limited	
		Shrink-swell	0.50	Slope	0.04	Slope	1.00
		Slope	0.04			Shrink-swell	0.50
Havasupai	20	Very limited		Very limited		Very limited	
		Depth to thin cemented pan	1.00	Depth to thin cemented pan	1.00	Depth to thin cemented pan	1.00
		Slope	1.00	Slope	1.00	Slope	1.00

Table 6.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
107:							
Pearce	80	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Content of large stones	1.00	Content of large stones	1.00	Content of large stones	1.00
		Slope	0.04	Slope	0.04	Slope	1.00
108:							
Pearce	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
Detrital	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Content of large stones	1.00	Content of large stones	1.00	Content of large stones	1.00
				Shrink-swell	0.50		
Rock outcrop	10	Not rated		Not rated		Not rated	
109:							
Pearce	70	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
Rock outcrop	15	Not rated		Not rated		Not rated	
110:							
Pedregosa family	50	Not limited		Not limited		Not limited	
Tombstone family	40	Not limited		Not limited		Not limited	

Table 6.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
111:							
Pidineen family-----	65	Not limited		Not limited		Somewhat limited	
						Slope	0.50
Tricon family-------	15	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
						Slope	0.50
112:							
Pits-dumps, mine----	100	Not rated		Not rated		Not rated	
113:							
Playa---------------	100	Not rated		Not rated		Not rated	
114:							
Prieta--------------	75	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Shrink-swell	1.00	Depth to hard bedrock	1.00
		Depth to soft bedrock	1.00	Depth to hard bedrock	1.00	Depth to soft bedrock	1.00
		Shrink-swell	1.00	Depth to soft bedrock	1.00	Shrink-swell	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Content of large stones	0.98	Content of large stones	0.98	Content of large stones	0.98
Rock outcrop--------	15	Not rated		Not rated		Not rated	
115:							
Quagwa--------------	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
				Shrink-swell	0.50		
116:							
Razorback-----------	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00

Table 6.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
117:							
Razorback	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
Rock outcrop	20	Not rated		Not rated		Not rated	
118:							
Razorback	65	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
Rock outcrop	30	Not rated		Not rated		Not rated	
119:							
Rift	75	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
120:							
Rift	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
121:							
Rillino family	50	Not limited		Not limited		Not limited	
Shamock family	25	Not limited		Not limited		Not limited	
Dutchflat	20	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50

Table 6.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
122:							
Rock outcrop--------	50	Not rated		Not rated		Not rated	
Appleseed----------	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Content of large stones	1.00	Content of large stones	1.00	Content of large stones	1.00
123:							
Rock outcrop--------	55	Not rated		Not rated		Not rated	
Pearce--------------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Content of large stones	0.68	Content of large stones	0.68	Content of large stones	0.68
124:							
Rock outcrop--------	65	Not rated		Not rated		Not rated	
Razorback----------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
125:							
Rock outcrop--------	50	Not rated		Not rated		Not rated	
Torriorthents-------	40	Not rated		Not rated		Not rated	
126:							
Rock outcrop--------	50	Not rated		Not rated		Not rated	
Torriorthents-------	40	Not rated		Not rated		Not rated	

Table 6.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
127:							
Rock outcrop--------	50	Not rated		Not rated		Not rated	
Valena--------------	25	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
Kopie family--------	20	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
128:							
Rolie---------------	60	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Slope	1.00
Dean----------------	25	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Slope	1.00
129:							
Romero--------------	45	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Chiricahua----------	30	Very limited		Very limited		Very limited	
		Depth to soft bedrock	1.00	Shrink-swell	1.00	Depth to soft bedrock	1.00
		Shrink-swell	1.00	Depth to hard bedrock	1.00	Shrink-swell	1.00
		Slope	1.00	Depth to soft bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.97	Slope	1.00	Depth to hard bedrock	0.97
Rock outcrop--------	20	Not rated		Not rated		Not rated	

Table 6.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
130:							
Romero	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to soft bedrock	1.00	Depth to soft bedrock	1.00	Depth to soft bedrock	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Lampshire	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Depth to soft bedrock	1.00	Depth to soft bedrock	1.00	Depth to soft bedrock	1.00
Rock outcrop	15	Not rated		Not rated		Not rated	
131:							
Rositas	80	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
132:							
Shortbread	85	Not limited		Not limited		Not limited	
133:							
Shortbread	40	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
Kurstan family	30	Not limited		Very limited		Not limited	
				Shrink-swell	1.00		
Dusty	20	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50

Table 6.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
134:							
Skelon family-------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Greyeagle family----	30	Not limited		Not limited		Somewhat limited	
						Slope	0.50
Detrital------------	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
135:							
Skelon family-------	60	Not limited		Not limited		Not limited	
Pinaleno family-----	30	Not limited		Not limited		Not limited	
136:							
Storybook-----------	80	Not limited		Not limited		Not limited	
137:							
Stronghold family---	45	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
McAllister family---	35	Somewhat limited		Somewhat limited		Very limited	
		Shrink-swell	0.78	Slope	0.04	Slope	1.00
		Slope	0.04			Shrink-swell	0.78
138:							
Sunrock-------------	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
139:							
Sunrock-------------	70	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Content of large stones	0.40	Content of large stones	0.40	Content of large stones	0.40

Table 6.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
139:							
Rock outcrop--------	20	Not rated		Not rated		Not rated	
140:							
Superstition family-	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Carrwash----------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
141:							
Taine---------------	90	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Content of large stones	1.00	Content of large stones	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00	Content of large stones	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
142:							
Thimble------------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Depth to soft bedrock	1.00	Depth to soft bedrock	1.00	Depth to soft bedrock	1.00
		Content of large stones	1.00	Content of large stones	1.00	Content of large stones	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Rock outcrop--------	10	Not rated		Not rated		Not rated	
143:							
Tombstone family----	50	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.16	Slope	0.16	Slope	1.00
		Content of large stones	0.05	Content of large stones	0.05	Content of large stones	0.05

Table 6.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
143:							
Caralampi family----	20	Somewhat limited		Somewhat limited		Very limited	
		Shrink-swell	0.78	Slope	0.16	Slope	1.00
		Slope	0.16			Shrink-swell	0.78
Nolam family--------	20	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.16	Slope	0.16	Slope	1.00
144:							
Torriorthents-------	80	Not rated		Not rated		Not rated	
145:							
Torriorthents-------	50	Not rated		Not rated		Not rated	
Haplocambids--------	35	Not rated		Not rated		Not rated	
146:							
Torriorthents-------	70	Not rated		Not rated		Not rated	
Rock outcrop--------	15	Not rated		Not rated		Not rated	
147:							
Tovar---------------	50	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.54	Slope	1.00	Depth to hard bedrock	0.54
Grandwash-----------	40	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Content of large stones	1.00	Content of large stones	1.00	Slope	1.00
		Slope	1.00	Slope	1.00	Content of large stones	1.00

Table 6.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
148:							
Truxton	75	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
Truxton, frequently flooded	15	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
149:							
Tumarion	85	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Slope	0.04	Slope	0.04	Slope	1.00
150:							
Tumarion	70	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Content of large stones	0.84	Slope	1.00	Content of large stones	0.84
		Depth to hard bedrock	0.79	Content of large stones	0.84	Depth to hard bedrock	0.79
Nickel family	15	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Content of large stones	0.90	Content of large stones	0.90	Content of large stones	0.90
151:							
Tumarion	75	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.99	Slope	1.00	Depth to hard bedrock	0.99
Nickel family	15	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Content of large stones	0.92	Content of large stones	0.92	Content of large stones	0.92

Table 6.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
152:							
Tyro	90	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
153:							
Tyro	90	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
154:							
Tyro	55	Not limited		Not limited		Very limited	
						Slope	1.00
Sunrock	35	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
						Slope	1.00
155:							
Urban land	60	Not rated		Not rated		Not rated	
Calvista family	25	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
						Slope	0.12
156:							
Ustorthents	60	Not rated		Not rated		Not rated	
Rock outcrop	30	Not rated		Not rated		Not rated	
157:							
Valena	70	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
						Slope	1.00

Table 6.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
157:							
Carri	20	Somewhat limited		Very limited		Very limited	
		Depth to hard bedrock	0.71	Depth to hard bedrock	1.00	Slope	1.00
						Depth to hard bedrock	0.71
158:							
Valena	40	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Slope	0.84	Slope	0.84	Slope	1.00
Rock outcrop	20	Not rated		Not rated		Not rated	
Carri family	15	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.84	Slope	0.84	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
159:							
Vekol family	85	Somewhat limited		Not limited		Somewhat limited	
		Shrink-swell	0.50			Shrink-swell	0.50
						Slope	0.12
160:							
Vekol family	80	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
161:							
Vekol family	50	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
						Slope	0.12
Whitehills	35	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
						Slope	0.12

Table 6.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
162:							
Vock	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to soft bedrock	1.00	Depth to soft bedrock	1.00	Depth to soft bedrock	1.00
Elements	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Content of large stones	0.18	Content of large stones	0.18	Content of large stones	0.18
Rock outcrop	10	Not rated		Not rated		Not rated	
163:							
Vock	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to soft bedrock	1.00	Depth to soft bedrock	1.00	Depth to soft bedrock	1.00
		Content of large stones	0.30	Content of large stones	0.30	Content of large stones	0.30
Elements	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Content of large stones	0.18	Content of large stones	0.18	Content of large stones	0.18
Rock outcrop	10	Not rated		Not rated		Not rated	
164:							
Water	100	Not rated		Not rated		Not rated	
165:							
White House	85	Somewhat limited		Somewhat limited		Very limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Slope	1.00
		Slope	0.04	Slope	0.04	Shrink-swell	0.50

Table 6.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
166:							
White House family--	85	Very limited		Somewhat limited		Very limited	
		Shrink-swell	1.00	Slope	0.04	Shrink-swell	1.00
		Slope	0.04			Slope	1.00
167:							
Whitehills----------	80	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
168:							
Wodomont----------	50	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Content of large stones	0.47	Content of large stones	0.47	Content of large stones	0.47
Kydestea----------	25	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Content of large stones	1.00	Content of large stones	1.00	Content of large stones	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.22	Shrink-swell	0.22	Shrink-swell	0.22
169:							
Wodomont----------	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Content of large stones	0.47	Content of large stones	0.47	Content of large stones	0.47
Metuck----------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Content of large stones	0.14	Content of large stones	0.14	Content of large stones	0.14

Table 6.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
169:							
Rock outcrop--------	15	Not rated		Not rated		Not rated	
170:							
Wodomont------------	70	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
171:							
Yahana family-------	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
172:							
Zibate family-------	75	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
173:							
Zibate family-------	80	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Content of large stones	1.00	Content of large stones	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00	Content of large stones	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
174:							
Zibate family-------	45	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Shrink-swell	1.00	Slope	1.00
		Shrink-swell	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00	Shrink-swell	1.00
		Content of large stones	0.62	Content of large stones	0.62	Content of large stones	0.62

Table 6.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
174:							
Dutchflat	25	Not limited		Not limited		Very limited	
						Slope	1.00
Tumarion	15	Somewhat limited		Very limited		Very limited	
		Content of large stones	0.79	Depth to hard bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.79	Content of large stones	0.79	Content of large stones	0.79
		Slope	0.63	Slope	0.63	Depth to hard bedrock	0.79

Table 7.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1:							
Alko family	85	Somewhat limited		Very limited		Very limited	
		Slope	0.74	Cutbanks cave	1.00	Depth to cemented pan	1.00
				Slope	0.74	Droughty	1.00
						Content of large stones	0.99
						Slope	0.74
2:							
Alko family	85	Somewhat limited		Very limited		Very limited	
		Frost action	0.50	Cutbanks cave	1.00	Depth to cemented pan	1.00
						Droughty	0.99
						Gravel content	0.36
						Content of large stones	0.01
3:							
Appleseed	45	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Content of large stones	1.00
		Content of large stones	0.95	Content of large stones	0.95	Droughty	1.00
		Frost action	0.50	Cutbanks cave	0.10	Slope	1.00
Huevi	40	Very limited		Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00	Gravel content	1.00
		Frost action	0.50	Slope	1.00	Slope	1.00
						Droughty	0.47

Table 7.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
4:							
Aridic Argiustolls--	60	Not rated		Not rated		Not rated	
Lithic Haplustolls--	30	Not rated		Not rated		Not rated	
5:							
Arizo----------	40	Not limited		Very limited		Very limited	
				Cutbanks cave	1.00	Droughty	1.00
						Gravel content	0.32
Detrital----------	30	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Cutbanks cave	1.00	Droughty	0.97
						Gravel content	0.22
						Content of large stones	0.01
Nickel----------	20	Somewhat limited		Very limited		Very limited	
		Frost action	0.50	Cutbanks cave	1.00	Gravel content	1.00
						Droughty	1.00
6:							
Arizo----------	40	Very limited		Very limited		Very limited	
		Flooding	1.00	Cutbanks cave	1.00	Flooding	1.00
				Flooding	0.80	Droughty	1.00
						Gravel content	0.50
Franconia----------	30	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Cutbanks cave	1.00	Droughty	0.68
				Flooding	0.60	Flooding	0.60
Riverwash----------	20	Not rated		Not rated		Not rated	
7:							
Arizo----------	55	Very limited		Very limited		Very limited	
		Flooding	1.00	Cutbanks cave	1.00	Droughty	1.00
				Flooding	0.60	Flooding	0.60
						Gravel content	0.46
Riverwash----------	35	Not rated		Not rated		Not rated	

Table 7.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
8:							
Arizo	50	Very limited		Very limited		Very limited	
		Flooding	1.00	Cutbanks cave	1.00	Flooding	1.00
				Flooding	0.80	Droughty	1.00
						Gravel content	0.32
Riverwash	25	Not rated		Not rated		Not rated	
9:							
Arizo	60	Somewhat limited		Very limited		Somewhat limited	
		Flooding	0.40	Cutbanks cave	1.00	Droughty	0.99
						Gravel content	0.32
Riverwash	30	Not rated		Not rated		Not rated	
10:							
Arizo	55	Very limited		Very limited		Very limited	
		Flooding	1.00	Cutbanks cave	1.00	Flooding	1.00
		Content of large stones	0.20	Flooding	0.80	Gravel content	1.00
				Content of large stones	0.20	Content of large stones	1.00
						Droughty	0.99
						Too sandy	0.50
Riverwash	35	Not rated		Not rated		Not rated	
11:							
Azure	45	Very limited		Very limited		Very limited	
		Depth to soft bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Depth to soft bedrock	1.00	Droughty	1.00
		Depth to hard bedrock	0.64	Slope	1.00	Gravel content	1.00
				Cutbanks cave	0.10	Slope	1.00

Table 7.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
11:							
Detrital	30	Very limited		Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00	Gravel content	1.00
		Frost action	0.50	Slope	1.00	Slope	1.00
						Droughty	0.92
Antares	20	Very limited		Very limited		Very limited	
		Depth to soft bedrock	1.00	Depth to soft bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Droughty	1.00
		Frost action	0.50	Cutbanks cave	0.10	Gravel content	1.00
						Slope	1.00
12:							
Birdsbeak	90	Very limited		Very limited		Very limited	
		Depth to soft bedrock	1.00	Depth to soft bedrock	1.00	Depth to bedrock	1.00
		Shrink-swell	1.00	Slope	1.00	Droughty	1.00
		Slope	1.00	Cutbanks cave	0.10	Gravel content	1.00
						Slope	1.00
13:							
Bluebird	50	Somewhat limited		Very limited		Very limited	
		Frost action	0.50	Cutbanks cave	1.00	Content of large stones	1.00
						Droughty	0.99
						Gravel content	0.01
Detrital	40	Somewhat limited		Very limited		Very limited	
		Frost action	0.50	Cutbanks cave	1.00	Content of large stones	1.00
						Droughty	0.70
						Gravel content	0.01
14:							
Bluebird	70	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Cutbanks cave	1.00	Droughty	0.01

Table 7.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
14:							
Lostman	25	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Cutbanks cave	1.00	Gravel content	0.32
						Droughty	0.01
15:							
Carrizo	75	Not limited		Very limited		Very limited	
				Cutbanks cave	1.00	Gravel content	1.00
						Droughty	1.00
Carrizo, rarely flooded	20	Somewhat limited		Very limited		Very limited	
		Flooding	0.40	Cutbanks cave	1.00	Gravel content	1.00
						Droughty	1.00
16:							
Carrizo	75	Very limited		Very limited		Very limited	
		Flooding	1.00	Cutbanks cave	1.00	Droughty	1.00
				Flooding	0.60	Gravel content	0.68
						Flooding	0.60
Riverwash	15	Not rated		Not rated		Not rated	
17:							
Carrizo	75	Very limited		Very limited		Very limited	
		Flooding	1.00	Cutbanks cave	1.00	Gravel content	1.00
				Flooding	0.60	Droughty	1.00
						Flooding	0.60
Riverwash	15	Not rated		Not rated		Not rated	
18:							
Chuckawalla	65	Somewhat limited		Very limited		Very limited	
		Slope	0.04	Cutbanks cave	1.00	Gravel content	1.00
				Slope	0.04	Droughty	0.82
						Content of large stones	0.08
						Slope	0.04

Table 7.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
18:							
Riverbend	25	Somewhat limited		Very limited		Very limited	
		Slope	0.04	Cutbanks cave	1.00	Droughty	1.00
				Slope	0.04	Content of large stones	0.99
						Gravel content	0.65
						Slope	0.04
19:							
Circular	45	Somewhat limited		Somewhat limited		Not limited	
		Frost action	0.50	Cutbanks cave	0.10		
Circular	40	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Cutbanks cave	1.00	Droughty	0.02
20:							
Circular	50	Somewhat limited		Very limited		Not limited	
		Frost action	0.50	Cutbanks cave	1.00		
Dusty	30	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Sodium content	1.00
		Shrink-swell	0.50	Cutbanks cave	0.10	Ponding	1.00
		Frost action	0.50				
21:							
Cod	90	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Cutbanks cave	1.00	Gravel content	0.46
						Droughty	0.09
22:							
Cordes	45	Very limited		Very limited		Very limited	
		Flooding	1.00	Cutbanks cave	1.00	Flooding	1.00
		Frost action	0.50	Flooding	0.80	Droughty	0.06
Manikan	25	Somewhat limited		Somewhat limited		Very limited	
		Shrink-swell	0.50	Cutbanks cave	0.10	Sodium content	1.00
		Frost action	0.50				
Riverwash	10	Not rated		Not rated		Not rated	

Table 7.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
23:							
Cupel	60	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Cutbanks cave	0.10	Droughty	1.00
		Frost action	0.50	Content of large stones	0.06	Gravel content	0.96
		Content of large stones	0.06			Content of large stones	0.92
Rock outcrop	20	Not rated		Not rated		Not rated	
24:							
Cyclopic	80	Very limited		Very limited		Very limited	
		Content of large stones	1.00	Content of large stones	1.00	Content of large stones	1.00
		Low strength	1.00	Too clayey	0.12	Droughty	1.00
		Shrink-swell	0.50	Cutbanks cave	0.10	Depth to cemented pan	0.84
		Frost action	0.50				
25:							
Deluge	50	Somewhat limited		Very limited		Very limited	
		Shrink-swell	0.50	Cutbanks cave	1.00	Droughty	1.00
		Frost action	0.50	Depth to hard bedrock	0.26	Gravel content	1.00
						Depth to cemented pan	0.90
Gotchell	17	Somewhat limited		Very limited		Very limited	
		Depth to hard bedrock	0.64	Depth to hard bedrock	1.00	Depth to cemented pan	1.00
		Frost action	0.50	Cutbanks cave	0.10	Gravel content	1.00
						Droughty	1.00
						Depth to bedrock	0.65

Table 7.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
25:							
Sunstroke	13	Somewhat limited		Very limited		Very limited	
		Frost action	0.50	Cutbanks cave	1.00	Gravel content	1.00
				Depth to hard bedrock	0.84	Droughty	1.00
						Depth to cemented pan	0.90
26:							
Detrital	45	Somewhat limited		Very limited		Very limited	
		Frost action	0.50	Cutbanks cave	1.00	Gravel content	1.00
						Droughty	0.92
Bluebird	35	Somewhat limited		Very limited		Very limited	
		Frost action	0.50	Cutbanks cave	1.00	Gravel content	1.00
						Droughty	0.96
						Content of large stones	0.38
27:							
Detrital	55	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Cutbanks cave	1.00	Droughty	0.91
						Gravel content	0.32
Nealy	35	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Cutbanks cave	1.00	Gravel content	0.32
				Depth to thin cemented pan	0.20	Droughty	0.23
						Depth to cemented pan	0.20
28:							
Detrital	60	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Cutbanks cave	1.00	Droughty	0.90
						Gravel content	0.32

Table 7.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
28:							
Nickel	35	Somewhat limited		Very limited		Very limited	
		Frost action	0.50	Cutbanks cave	1.00	Droughty	1.00
						Gravel content	1.00
29:							
Detrital	60	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Cutbanks cave	1.00	Droughty	0.79
						Gravel content	0.32
Nickel family	25	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Cutbanks cave	1.00	Droughty	0.48
						Gravel content	0.46
30:							
Detrital	50	Somewhat limited		Very limited		Very limited	
		Frost action	0.50	Cutbanks cave	1.00	Gravel content	1.00
						Droughty	0.92
Skelon family	30	Somewhat limited		Very limited		Very limited	
		Frost action	0.50	Cutbanks cave	1.00	Droughty	1.00
						Gravel content	1.00
						Depth to cemented pan	0.97
						Content of large stones	0.08
31:							
Dusty	70	Very limited		Very limited		Very limited	
		Low strength	1.00	Ponding	1.00	Sodium content	1.00
		Ponding	1.00	Cutbanks cave	0.10	Carbonate content	1.00
		Shrink-swell	0.50			Ponding	1.00
		Frost action	0.50				
Kurstan family	15	Somewhat limited		Very limited		Not limited	
		Frost action	0.50	Cutbanks cave	1.00		

Table 7.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
32:							
Dutchflat	80	Somewhat limited		Somewhat limited		Not limited	
		Shrink-swell	0.50	Cutbanks cave	0.10		
33:							
Dye	50	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Low strength	1.00	Slope	1.00	Droughty	1.00
		Shrink-swell	1.00	Cutbanks cave	0.10	Slope	1.00
		Slope	1.00			Content of large stones	1.00
						Gravel content	0.14
Tovar	20	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Depth to hard bedrock	1.00	Gravel content	1.00
		Low strength	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Too clayey	0.12	Content of large stones	0.99
		Depth to hard bedrock	0.10	Cutbanks cave	0.10	Depth to bedrock	0.10
Rock outcrop	15	Not rated		Not rated		Not rated	
34:							
Faraway	70	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Depth to soft bedrock	1.00	Slope	1.00
		Depth to soft bedrock	1.00	Slope	1.00	Gravel content	1.00
		Frost action	0.50	Cutbanks cave	0.10	Droughty	1.00
Rock outcrop	20	Not rated		Not rated		Not rated	

Table 7.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
35:							
Fig	50	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to soft bedrock	1.00	Depth to bedrock	1.00
		Depth to soft bedrock	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	0.10	Content of large stones	1.00
						Droughty	1.00
Blind	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	0.10	Content of large stones	1.00
		Content of large stones	0.03	Content of large stones	0.03	Droughty	0.43
Nodman	15	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to soft bedrock	1.00	Depth to bedrock	1.00
		Depth to soft bedrock	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	1.00	Cutbanks cave	0.10	Content of large stones	1.00
		Frost action	0.50			Droughty	1.00
36:							
Filaree	80	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Cutbanks cave	1.00	Gravel content	0.46
						Droughty	0.09
37:							
Filaree	60	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Cutbanks cave	1.00	Gravel content	0.46
						Droughty	0.09
Dutchflat	30	Somewhat limited		Very limited		Not limited	
		Frost action	0.50	Cutbanks cave	1.00		

Table 7.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
38:							
Garnet	50	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Cutbanks cave	1.00	Gravel content	0.32
						Droughty	0.04
Dutchflat	40	Somewhat limited		Very limited		Not limited	
		Frost action	0.50	Cutbanks cave	1.00		
39:							
Goesling family	75	Somewhat limited		Somewhat limited		Not limited	
		Low strength	0.78	Cutbanks cave	0.10		
		Shrink-swell	0.50				
40:							
Goldroad	75	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Depth to soft bedrock	1.00	Slope	1.00
		Depth to soft bedrock	1.00	Slope	1.00	Droughty	1.00
		Frost action	0.50	Cutbanks cave	0.10	Content of large stones	0.99
						Gravel content	0.91
Rock outcrop	10	Not rated		Not rated		Not rated	
41:							
Goldroad	75	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	0.10	Droughty	1.00
		Content of large stones	0.03	Content of large stones	0.03	Content of large stones	0.99
						Gravel content	0.91
Rock outcrop	20	Not rated		Not rated		Not rated	

Table 7.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
42:							
Gonzales	60	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Depth to soft bedrock	1.00	Slope	1.00
		Depth to soft bedrock	1.00	Slope	1.00	Content of large stones	1.00
		Shrink-swell	1.00	Cutbanks cave	0.10	Droughty	0.97
		Low strength	1.00				
Rock outcrop	25	Not rated		Not rated		Not rated	
43:							
Goodsprings family	75	Very limited		Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00	Depth to cemented pan	1.00
				Slope	1.00	Slope	1.00
						Droughty	0.99
						Gravel content	0.68
44:							
Gotchell	50	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Depth to cemented pan	1.00
		Depth to hard bedrock	0.64	Slope	1.00	Gravel content	1.00
		Frost action	0.50	Cutbanks cave	0.10	Droughty	1.00
						Slope	1.00
						Depth to bedrock	0.65
Sunstroke	30	Very limited		Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00	Gravel content	1.00
		Frost action	0.50	Slope	1.00	Droughty	1.00
				Depth to hard bedrock	0.84	Slope	1.00
						Depth to cemented pan	0.90

Table 7.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
45:							
Graham	60	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Shrink-swell	1.00	Cutbanks cave	0.10	Content of large stones	1.00
		Low strength	1.00	Slope	0.04	Droughty	0.98
		Slope	0.04			Gravel content	0.10
						Slope	0.04
Arivaca	25	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Depth to hard bedrock	1.00	Content of large stones	1.00
		Low strength	1.00	Too clayey	0.50	Depth to bedrock	0.42
		Depth to hard bedrock	0.42	Cutbanks cave	0.10	Slope	0.04
		Slope	0.04	Slope	0.04	Gravel content	0.02
						Droughty	0.01
46:							
Graham	60	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Shrink-swell	1.00	Slope	1.00	Content of large stones	1.00
		Slope	1.00	Cutbanks cave	0.10	Slope	1.00
		Low strength	1.00			Droughty	0.98
						Gravel content	0.10
Rock outcrop	20	Not rated		Not rated		Not rated	
47:							
Grandwash	85	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Content of large stones	1.00	Content of large stones	1.00	Content of large stones	1.00
		Slope	0.96	Slope	0.96	Droughty	1.00
		Shrink-swell	0.50	Cutbanks cave	0.10	Slope	0.96

Table 7.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
48:							
Greyeagle family----	80	Very limited		Very limited		Very limited	
		Content of large stones	1.00	Content of large stones	1.00	Depth to cemented pan	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	0.10	Gravel content	1.00
						Droughty	1.00
						Content of large stones	0.54
49:							
Greyeagle family----	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to cemented pan	1.00
		Frost action	0.50	Cutbanks cave	0.10	Slope	1.00
						Gravel content	1.00
						Droughty	1.00
						Content of large stones	0.46
50:							
Greyeagle family----	70	Somewhat limited		Somewhat limited		Very limited	
		Frost action	0.50	Cutbanks cave	0.10	Depth to cemented pan	1.00
						Droughty	1.00
						Gravel content	0.97
						Content of large stones	0.54
Cyclopic----------	20	Very limited		Somewhat limited		Very limited	
		Low strength	1.00	Too clayey	0.12	Droughty	1.00
		Shrink-swell	0.50	Cutbanks cave	0.10	Gravel content	1.00
		Content of large stones	0.05	Content of large stones	0.05	Depth to cemented pan	0.79
						Content of large stones	0.32

Table 7.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
51:							
Greyeagle family----	70	Somewhat limited		Somewhat limited		Very limited	
		Frost action	0.50	Cutbanks cave	0.10	Depth to cemented pan	1.00
						Gravel content	1.00
						Droughty	1.00
Skelon family-------	20	Somewhat limited		Very limited		Very limited	
		Frost action	0.50	Cutbanks cave	1.00	Gravel content	1.00
						Droughty	0.97
						Depth to cemented pan	0.90
52:							
Greyeagle family----	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to cemented pan	1.00
		Frost action	0.50	Cutbanks cave	0.10	Gravel content	1.00
						Droughty	1.00
						Slope	1.00
						Content of large stones	0.61
Skelon family-------	20	Very limited		Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00	Droughty	1.00
		Frost action	0.50	Slope	1.00	Gravel content	1.00
						Slope	1.00
						Depth to cemented pan	0.90
						Content of large stones	0.08
53:							
Gypsids----------	90	Not rated		Not rated		Not rated	
54:							
Haplogypsids, eroded	70	Not rated		Not rated		Not rated	
Haplogypsids--------	30	Not rated		Not rated		Not rated	

Table 7.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
55:							
Hassell family------	50	Very limited		Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00	Slope	1.00
		Low strength	1.00	Slope	1.00	Depth to bedrock	0.42
		Shrink-swell	0.50	Too clayey	0.50		
				Depth to soft bedrock	0.42		
Lampshire----------	25	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Depth to soft bedrock	1.00	Slope	1.00
		Depth to soft bedrock	1.00	Slope	1.00	Droughty	1.00
				Cutbanks cave	0.10	Gravel content	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
56:							
Hindu---------------	60	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Content of large stones	1.00
		Content of large stones	0.04	Cutbanks cave	0.10	Droughty	1.00
				Content of large stones	0.04	Slope	1.00
						Gravel content	0.07
Rock outcrop--------	20	Not rated		Not rated		Not rated	
57:							
Hooks family--------	45	Somewhat limited		Somewhat limited		Not limited	
		Frost action	0.50	Cutbanks cave	0.10		

Table 7.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
57:							
Courtland family----	40	Somewhat limited		Very limited		Not limited	
		Frost action	0.50	Cutbanks cave	1.00		
				Depth to hard bedrock	0.88		
58:							
Hosta family--------	75	Very limited		Somewhat limited		Not limited	
		Shrink-swell	1.00	Too clayey	0.12		
		Low strength	1.00	Cutbanks cave	0.10		
		Frost action	0.50				
59:							
House Mountain family----------	40	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Depth to soft bedrock	1.00	Depth to soft bedrock	1.00	Gravel content	1.00
		Slope	1.00	Slope	1.00	Droughty	1.00
		Frost action	0.50	Cutbanks cave	0.10	Slope	1.00
Calvista family-----	30	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Droughty	1.00
		Frost action	0.50	Cutbanks cave	0.10	Gravel content	1.00
						Slope	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
60:							
Huevi---------------	90	Somewhat limited		Very limited		Very limited	
		Frost action	0.50	Cutbanks cave	1.00	Content of large stones	1.00
						Droughty	0.42

Table 7.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
61:							
Huevi	85	Very limited		Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00	Gravel content	1.00
				Slope	1.00	Slope	1.00
						Droughty	0.98
62:							
Huevi	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	1.00	Droughty	1.00
						Gravel content	1.00
63:							
Huevi	65	Somewhat limited		Very limited		Very limited	
		Slope	0.84	Cutbanks cave	1.00	Gravel content	1.00
		Frost action	0.50	Slope	0.84	Droughty	0.96
						Slope	0.84
Carrizo	15	Somewhat limited		Very limited		Very limited	
		Flooding	0.40	Cutbanks cave	1.00	Gravel content	1.00
						Droughty	1.00
						Content of large stones	0.01
64:							
Huevi	65	Very limited		Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00	Gravel content	1.00
		Frost action	0.50	Slope	1.00	Slope	1.00
						Droughty	0.99
Carrwash	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Cutbanks cave	1.00	Gravel content	1.00
						Droughty	1.00
						Too sandy	0.50

Table 7.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
65:							
Huevi	50	Very limited		Very limited		Very limited	
		Content of large stones	1.00	Content of large stones	1.00	Slope	1.00
		Slope	1.00	Slope	1.00	Content of large stones	1.00
		Frost action	0.50	Cutbanks cave	0.10	Droughty	0.13
Sunrock	30	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	0.10	Content of large stones	1.00
						Droughty	1.00
						Gravel content	0.26
Rock outcrop	10	Not rated		Not rated		Not rated	
66:							
Hulda	75	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	0.10	Gravel content	1.00
						Droughty	1.00
67:							
Hulda	70	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	0.10	Content of large stones	1.00
						Droughty	1.00
Rock outcrop	20	Not rated		Not rated		Not rated	

Table 7.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
68:							
Hulda	50	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Content of large stones	1.00	Content of large stones	1.00	Content of large stones	1.00
		Frost action	0.50	Cutbanks cave	0.10	Droughty	1.00
Rock outcrop	35	Not rated		Not rated		Not rated	
69:							
Ireteba family	45	Somewhat limited		Very limited		Somewhat limited	
		Flooding	0.40	Cutbanks cave	1.00	Gravel content	0.50
						Droughty	0.04
Arizo	30	Very limited		Very limited		Very limited	
		Flooding	1.00	Cutbanks cave	1.00	Flooding	1.00
				Flooding	0.80	Droughty	1.00
						Gravel content	0.50
70:							
Jagerson	85	Not limited		Very limited		Somewhat limited	
				Cutbanks cave	1.00	Gravel content	0.50
						Droughty	0.01
71:							
Jagerson	45	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Cutbanks cave	1.00	Gravel content	0.46
Nealy	40	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Cutbanks cave	1.00	Gravel content	0.50
				Depth to thin cemented pan	0.20	Droughty	0.25
						Depth to cemented pan	0.20

Table 7.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
72:							
Kingtut	45	Very limited		Very limited		Very limited	
		Low strength	1.00	Depth to hard bedrock	1.00	Depth to cemented pan	1.00
		Shrink-swell	0.50	Cutbanks cave	0.10	Droughty	1.00
		Depth to hard bedrock	0.20			Gravel content	1.00
						Depth to bedrock	0.20
Promontory	35	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
				Cutbanks cave	0.10	Depth to cemented pan	1.00
						Droughty	0.98
						Gravel content	0.92
73:							
Kinley	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Cutbanks cave	1.00	Gravel content	0.50
74:							
Kurstan family	60	Somewhat limited		Somewhat limited		Not limited	
		Frost action	0.50	Cutbanks cave	0.10		
Dusty	30	Very limited		Very limited		Very limited	
		Low strength	1.00	Ponding	1.00	Sodium content	1.00
		Ponding	1.00	Cutbanks cave	0.10	Carbonate content	1.00
		Shrink-swell	0.50			Ponding	1.00
		Frost action	0.50				

Table 7.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
75:							
Lampshire	65	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Depth to soft bedrock	1.00	Slope	1.00
		Depth to soft bedrock	1.00	Slope	1.00	Droughty	1.00
				Cutbanks cave	0.10	Gravel content	0.46
Rock outcrop	20	Not rated		Not rated		Not rated	
76:							
Lostman	80	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Cutbanks cave	1.00	Droughty	0.46
						Gravel content	0.32
77:							
Lostman	80	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Cutbanks cave	1.00	Droughty	0.29
78:							
Luzena	45	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Shrink-swell	1.00	Slope	0.63	Content of large stones	1.00
		Low strength	1.00	Cutbanks cave	0.10	Droughty	1.00
		Slope	0.63			Slope	0.63
						Gravel content	0.03
Thunderbird	30	Very limited		Very limited		Very limited	
		Low strength	1.00	Depth to hard bedrock	1.00	Content of large stones	1.00
		Shrink-swell	1.00	Slope	0.63	Slope	0.63
		Slope	0.63	Too clayey	0.12	Depth to bedrock	0.42
		Depth to hard bedrock	0.42	Cutbanks cave	0.10	Droughty	0.10
						Gravel content	0.02

Table 7.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
79:							
Lykorly	85	Very limited		Somewhat limited		Somewhat limited	
		Low strength	1.00	Cutbanks cave	0.10	Gravel content	0.02
		Shrink-swell	0.50				
		Frost action	0.50				
80:							
Lykorly	75	Somewhat limited		Somewhat limited		Not limited	
		Frost action	0.50	Cutbanks cave	0.10		
81:							
Manikan	60	Somewhat limited		Somewhat limited		Very limited	
		Shrink-swell	0.50	Cutbanks cave	0.10	Sodium content	1.00
		Frost action	0.50				
Nuffel	25	Very limited		Somewhat limited		Not limited	
		Low strength	1.00	Cutbanks cave	0.10		
		Frost action	0.50				
82:							
Mathis family	55	Very limited		Very limited		Very limited	
		Content of large stones	1.00	Content of large stones	1.00	Flooding	1.00
		Flooding	1.00	Cutbanks cave	1.00	Content of large stones	1.00
				Flooding	0.80	Droughty	0.99
Riverwash	35	Not rated		Not rated		Not rated	
83:							
Mayswell	75	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Shrink-swell	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Content of large stones	0.23	Droughty	0.99
		Low strength	1.00	Cutbanks cave	0.10	Content of large stones	0.68
		Content of large stones	0.23				

Table 7.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
83:							
Rock outcrop	15	Not rated		Not rated		Not rated	
84:							
Meadview	80	Very limited		Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00	Droughty	1.00
		Content of large stones	0.99	Slope	1.00	Content of large stones	1.00
				Content of large stones	0.99	Slope	1.00
						Gravel content	0.61
85:							
Meadview	60	Very limited		Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00	Droughty	1.00
		Content of large stones	0.18	Slope	1.00	Content of large stones	1.00
				Content of large stones	0.18	Slope	1.00
Yurm family	30	Somewhat limited		Somewhat limited		Very limited	
		Frost action	0.50	Cutbanks cave	0.10	Depth to cemented pan	1.00
						Droughty	1.00
						Gravel content	0.99
						Content of large stones	0.68
86:							
Meriwhitica	65	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Gravel content	1.00
		Frost action	0.50	Cutbanks cave	0.10	Droughty	1.00
						Slope	1.00
Rock outcrop	15	Not rated		Not rated		Not rated	

Table 7.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
87:							
Mextank	80	Somewhat limited		Very limited		Very limited	
		Frost action	0.50	Cutbanks cave	1.00	Gravel content	1.00
						Droughty	0.99
88:							
Milkweed	50	Somewhat limited		Somewhat limited		Very limited	
		Frost action	0.50	Slope	0.37	Depth to cemented pan	1.00
		Slope	0.37	Cutbanks cave	0.10	Gravel content	1.00
						Droughty	1.00
						Slope	0.37
Quartermaster	30	Somewhat limited		Somewhat limited		Very limited	
		Shrink-swell	0.50	Cutbanks cave	0.10	Gravel content	1.00
		Frost action	0.50			Depth to cemented pan	0.42
						Droughty	0.07
Buckndoe	15	Somewhat limited		Somewhat limited		Very limited	
		Frost action	0.50	Slope	0.37	Gravel content	1.00
		Slope	0.37	Cutbanks cave	0.10	Slope	0.37
						Droughty	0.17
89:							
Milok	55	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Cutbanks cave	1.00	Gravel content	0.41
Pastern	35	Somewhat limited		Very limited		Very limited	
		Frost action	0.50	Cutbanks cave	1.00	Depth to cemented pan	1.00
						Droughty	1.00
						Gravel content	0.50

Table 7.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
90:							
Mutang	45	Very limited		Very limited		Very limited	
		Depth to soft bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Low strength	1.00	Depth to soft bedrock	1.00	Droughty	0.98
		Shrink-swell	1.00	Cutbanks cave	0.10	Gravel content	0.32
		Depth to hard bedrock	0.97				
Dutchflat	40	Somewhat limited		Somewhat limited		Not limited	
		Shrink-swell	0.50	Cutbanks cave	0.10		
91:							
Mutang	55	Very limited		Very limited		Very limited	
		Depth to soft bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Low strength	1.00	Depth to soft bedrock	1.00	Slope	1.00
		Shrink-swell	1.00	Slope	1.00	Droughty	0.98
		Slope	1.00	Cutbanks cave	0.10	Gravel content	0.32
		Depth to hard bedrock	0.97				
Wikieup	25	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Gravel content	1.00
		Frost action	0.50	Cutbanks cave	0.10	Droughty	1.00
						Slope	1.00
Rock outcrop	15	Not rated		Not rated		Not rated	
92:							
Nealy	60	Somewhat limited		Somewhat limited		Somewhat limited	
		Frost action	0.50	Cutbanks cave	0.10	Depth to cemented pan	0.95
						Gravel content	0.46
						Droughty	0.23

Table 7.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
92:							
Shamock family------	30	Not limited		Somewhat limited		Somewhat limited	
				Cutbanks cave	0.10	Depth to cemented pan	0.95
						Gravel content	0.46
						Droughty	0.15
93:							
Nealy----------	40	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Cutbanks cave	1.00	Gravel content	0.46
				Depth to thin cemented pan	0.20	Droughty	0.29
						Depth to cemented pan	0.20
Skelon family-------	30	Somewhat limited		Very limited		Very limited	
		Frost action	0.50	Cutbanks cave	1.00	Gravel content	1.00
						Droughty	0.60
						Depth to cemented pan	0.06
Detrital----------	25	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Cutbanks cave	1.00	Droughty	0.90
						Gravel content	0.32
94:							
Nickel family-------	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	1.00	Gravel content	1.00
						Droughty	0.99
Bluebird----------	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	1.00	Gravel content	1.00
						Droughty	0.99
						Content of large stones	0.38

Table 7.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
95:							
Nickel	45	Somewhat limited		Very limited		Very limited	
		Frost action	0.50	Cutbanks cave	1.00	Gravel content	1.00
						Droughty	0.93
Skelon family	25	Somewhat limited		Very limited		Very limited	
		Frost action	0.50	Cutbanks cave	1.00	Droughty	1.00
						Gravel content	1.00
						Depth to cemented pan	0.10
Detrital	15	Somewhat limited		Very limited		Very limited	
		Frost action	0.50	Cutbanks cave	1.00	Gravel content	1.00
						Droughty	0.92
96:							
Nickel family	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Cutbanks cave	1.00	Gravel content	1.00
						Droughty	0.41
						Content of large stones	0.08
Topawa family	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Cutbanks cave	1.00	Gravel content	1.00
						Droughty	0.80
Eba family	25	Very limited		Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00	Gravel content	1.00
		Shrink-swell	0.50	Slope	1.00	Slope	1.00
				Too clayey	0.50	Droughty	0.63
						Content of large stones	0.03

Table 7.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
97:							
Nodman	40	Somewhat limited		Very limited		Very limited	
		Depth to soft bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Shrink-swell	0.50	Depth to soft bedrock	1.00	Gravel content	1.00
		Frost action	0.50	Cutbanks cave	0.10	Droughty	1.00
		Depth to hard bedrock	0.11				
Antares	35	Somewhat limited		Very limited		Very limited	
		Depth to soft bedrock	1.00	Depth to soft bedrock	1.00	Depth to bedrock	1.00
		Frost action	0.50	Depth to hard bedrock	0.99	Gravel content	1.00
				Cutbanks cave	0.10	Droughty	1.00
98:							
Nodman	60	Somewhat limited		Very limited		Very limited	
		Depth to soft bedrock	1.00	Depth to soft bedrock	1.00	Depth to bedrock	1.00
		Shrink-swell	0.78	Cutbanks cave	0.10	Droughty	1.00
		Frost action	0.50	Slope	0.04	Gravel content	0.68
		Slope	0.04			Slope	0.04
Courtland family	25	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Depth to hard bedrock	1.00	Depth to bedrock	0.54
		Shrink-swell	0.78	Cutbanks cave	0.10	Gravel content	0.32
		Depth to hard bedrock	0.54	Slope	0.04	Slope	0.04
		Frost action	0.50				
		Slope	0.04				

Table 7.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
99:							
Nodman	65	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to soft bedrock	1.00	Depth to bedrock	1.00
		Depth to soft bedrock	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.78	Cutbanks cave	0.10	Droughty	1.00
		Frost action	0.50			Gravel content	0.92
Rock outcrop	20	Not rated		Not rated		Not rated	
100:							
Nodman	60	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to soft bedrock	1.00	Depth to bedrock	1.00
		Depth to soft bedrock	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.78	Content of large stones	0.55	Droughty	1.00
		Content of large stones	0.55	Cutbanks cave	0.10	Content of large stones	0.08
		Frost action	0.50			Gravel content	0.01
Romero family	20	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Depth to soft bedrock	1.00	Depth to soft bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.99	Slope	1.00	Droughty	1.00
		Content of large stones	0.75	Content of large stones	0.75	Gravel content	1.00
		Frost action	0.50	Cutbanks cave	0.10	Content of large stones	0.01

Table 7.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
101:							
Nolam family--------	35	Somewhat limited		Very limited		Very limited	
		Shrink-swell	0.78	Cutbanks cave	1.00	Content of large stones	1.00
		Frost action	0.50			Droughty	0.59
						Gravel content	0.02
Ustalfic Petrocalcids-------	30	Not rated		Very limited		Somewhat limited	
				Cutbanks cave	1.00	Gravel content	0.55
						Content of large stones	0.32
						Droughty	0.01
						Depth to cemented pan	0.01
Caralampi family----	25	Somewhat limited		Very limited		Somewhat limited	
		Shrink-swell	0.78	Cutbanks cave	1.00	Content of large stones	0.92
		Frost action	0.50			Droughty	0.40
102:							
Ohaco family--------	50	Not limited		Very limited		Somewhat limited	
				Cutbanks cave	1.00	Depth to cemented pan	0.10
Bluebird------------	40	Somewhat limited		Very limited		Very limited	
		Frost action	0.50	Cutbanks cave	1.00	Gravel content	1.00
						Droughty	0.99
						Content of large stones	0.38
103:							
Orejano-------------	75	Very limited		Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00	Slope	1.00
				Slope	1.00	Droughty	0.92
						Gravel content	0.92

Table 7.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
104:							
Pantak family-------	45	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Content of large stones	1.00	Content of large stones	1.00	Content of large stones	1.00
		Shrink-swell	0.78	Cutbanks cave	0.10	Droughty	1.00
		Frost action	0.50				
Taine---------------	25	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Content of large stones	1.00	Content of large stones	1.00	Slope	1.00
		Slope	1.00	Slope	1.00	Droughty	1.00
		Low strength	1.00	Cutbanks cave	0.10	Content of large stones	1.00
		Shrink-swell	1.00			Gravel content	0.99
Terino family-------	15	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Depth to cemented pan	1.00
		Shrink-swell	0.78	Slope	1.00	Slope	1.00
		Content of large stones	0.68	Content of large stones	0.68	Droughty	1.00
		Depth to hard bedrock	0.10	Cutbanks cave	0.10	Content of large stones	1.00
						Gravel content	0.61
105:							
Pastern-------------	50	Somewhat limited		Very limited		Very limited	
		Slope	0.63	Cutbanks cave	1.00	Depth to cemented pan	1.00
		Frost action	0.50	Slope	0.63	Droughty	1.00
						Slope	0.63
						Gravel content	0.50

Table 7.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
105:							
Strych	40	Somewhat limited		Very limited		Very limited	
		Slope	0.63	Cutbanks cave	1.00	Gravel content	1.00
		Frost action	0.50	Slope	0.63	Droughty	0.99
						Slope	0.63
						Content of large stones	0.01
106:							
Peachsprings	75	Somewhat limited		Very limited		Very limited	
		Shrink-swell	0.50	Cutbanks cave	1.00	Gravel content	1.00
		Frost action	0.50	Slope	0.04	Slope	0.04
		Slope	0.04				
Havasupai	20	Very limited		Very limited		Very limited	
		Depth to thin cemented pan	1.00	Depth to thin cemented pan	1.00	Depth to cemented pan	1.00
		Slope	1.00	Cutbanks cave	1.00	Gravel content	1.00
		Frost action	0.50	Slope	1.00	Droughty	1.00
						Slope	1.00
						Content of large stones	0.01
107:							
Pearce	80	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Content of large stones	1.00	Content of large stones	1.00	Content of large stones	1.00
		Frost action	0.50	Cutbanks cave	0.10	Droughty	1.00
		Slope	0.04	Slope	0.04	Slope	0.04
108:							
Pearce	50	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	0.10	Content of large stones	1.00
						Droughty	1.00

Table 7.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
108:							
Detrital	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Content of large stones	1.00	Content of large stones	1.00	Content of large stones	1.00
		Frost action	0.50	Cutbanks cave	0.10	Droughty	0.82
						Gravel content	0.75
Rock outcrop	10	Not rated		Not rated		Not rated	
109:							
Pearce	70	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Droughty	1.00
		Frost action	0.50	Cutbanks cave	0.10	Gravel content	1.00
						Slope	1.00
						Content of large stones	0.26
Rock outcrop	15	Not rated		Not rated		Not rated	
110:							
Pedregosa family	50	Somewhat limited		Somewhat limited		Very limited	
		Frost action	0.50	Cutbanks cave	0.10	Depth to cemented pan	1.00
						Droughty	1.00
						Gravel content	0.68
						Content of large stones	0.68
Tombstone family	40	Somewhat limited		Very limited		Very limited	
		Frost action	0.50	Cutbanks cave	1.00	Carbonate content	1.00
						Droughty	0.64
						Gravel content	0.32

Table 7.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
111:							
Pidineen family-----	65	Somewhat limited		Somewhat limited		Very limited	
		Frost action	0.50	Cutbanks cave	0.10	Depth to cemented pan	1.00
						Droughty	1.00
						Gravel content	0.32
Tricon family-------	15	Very limited		Somewhat limited		Somewhat limited	
		Shrink-swell	1.00	Cutbanks cave	0.10	Depth to cemented pan	0.99
		Low strength	1.00			Droughty	0.04
		Frost action	0.50				
112:							
Pits-dumps, mine----	100	Not rated		Not rated		Not rated	
113:							
Playa---------------	100	Not rated		Not rated		Not rated	
114:							
Prieta--------------	75	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Depth to soft bedrock	1.00	Depth to soft bedrock	1.00	Content of large stones	1.00
		Shrink-swell	1.00	Slope	1.00	Droughty	1.00
		Slope	1.00	Content of large stones	0.98	Slope	1.00
		Low strength	1.00	Cutbanks cave	0.10	Gravel content	0.03
Rock outcrop--------	15	Not rated		Not rated		Not rated	
115:							
Quagwa--------------	85	Somewhat limited		Somewhat limited		Not limited	
		Frost action	0.50	Cutbanks cave	0.10		
		Flooding	0.40				

Table 7.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
116:							
Razorback	90	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
				Cutbanks cave	0.10	Gravel content	1.00
						Droughty	1.00
						Content of large stones	0.01
117:							
Razorback	60	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
				Cutbanks cave	0.10	Content of large stones	1.00
						Droughty	1.00
						Gravel content	0.06
Rock outcrop	20	Not rated		Not rated		Not rated	
118:							
Razorback	65	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	0.10	Gravel content	1.00
						Droughty	1.00
Rock outcrop	30	Not rated		Not rated		Not rated	
119:							
Rift	75	Very limited		Very limited		Very limited	
		Flooding	1.00	Ponding	1.00	Flooding	1.00
		Ponding	1.00	Flooding	0.80	Sodium content	1.00
		Shrink-swell	0.50	Cutbanks cave	0.10	Ponding	1.00
		Frost action	0.50				

Table 7.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
120:							
Rift	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Ponding	1.00	Flooding	1.00
		Ponding	1.00	Flooding	0.80	Sodium content	1.00
		Shrink-swell	0.50	Cutbanks cave	0.10	Ponding	1.00
		Frost action	0.50			Salinity	0.13
121:							
Rillino family	50	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Cutbanks cave	1.00	Droughty	0.12
Shamock family	25	Not limited		Somewhat limited		Somewhat limited	
				Cutbanks cave	0.10	Depth to cemented pan	0.95
						Gravel content	0.46
						Droughty	0.17
Dutchflat	20	Somewhat limited		Somewhat limited		Not limited	
		Shrink-swell	0.50	Cutbanks cave	0.10		
122:							
Rock outcrop	50	Not rated		Not rated		Not rated	
Appleseed	40	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Content of large stones	1.00	Content of large stones	1.00	Content of large stones	1.00
		Frost action	0.50	Cutbanks cave	0.10	Droughty	1.00
123:							
Rock outcrop	55	Not rated		Not rated		Not rated	

Table 7.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
123:							
Pearce	30	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Content of large stones	0.68	Content of large stones	0.68	Droughty	1.00
		Frost action	0.50	Cutbanks cave	0.10	Content of large stones	1.00
124:							
Rock outcrop	65	Not rated		Not rated		Not rated	
Razorback	30	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
				Cutbanks cave	0.10	Gravel content	1.00
						Droughty	1.00
						Content of large stones	0.01
125:							
Rock outcrop	50	Not rated		Not rated		Not rated	
Torriorthents	40	Not rated		Not rated		Not rated	
126:							
Rock outcrop	50	Not rated		Not rated		Not rated	
Torriorthents	40	Not rated		Not rated		Not rated	

Table 7.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
127:							
Rock outcrop--------	50	Not rated		Not rated		Not rated	
Valena--------------	25	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Droughty	1.00
				Cutbanks cave	0.10	Slope	1.00
Kopie family--------	20	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Droughty	1.00
				Cutbanks cave	0.10	Slope	1.00
						Gravel content	0.50
128:							
Rolie---------------	60	Somewhat limited		Somewhat limited		Very limited	
		Frost action	0.50	Slope	0.37	Depth to cemented pan	1.00
		Slope	0.37	Cutbanks cave	0.10	Droughty	1.00
						Gravel content	1.00
						Slope	0.37
Dean----------------	25	Somewhat limited		Very limited		Very limited	
		Frost action	0.50	Cutbanks cave	1.00	Gravel content	1.00
		Slope	0.37	Slope	0.37	Carbonate content	1.00
						Slope	0.37
						Content of large stones	0.01
129:							
Romero--------------	45	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Droughty	1.00
		Shrink-swell	0.50	Cutbanks cave	0.10	Content of large stones	1.00
						Slope	1.00
						Gravel content	0.36

Table 7.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
129:							
Chiricahua	30	Very limited		Very limited		Very limited	
		Depth to soft bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Shrink-swell	1.00	Depth to soft bedrock	1.00	Droughty	1.00
		Slope	1.00	Slope	1.00	Gravel content	1.00
		Depth to hard bedrock	0.97	Cutbanks cave	0.10	Slope	1.00
		Low strength	0.78			Content of large stones	0.20
Rock outcrop	20	Not rated		Not rated		Not rated	
130:							
Romero	60	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to soft bedrock	1.00	Depth to bedrock	1.00
		Depth to soft bedrock	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Cutbanks cave	0.10	Content of large stones	1.00
						Droughty	1.00
						Gravel content	0.06
Lampshire	20	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Depth to soft bedrock	1.00	Slope	1.00
		Depth to soft bedrock	1.00	Slope	1.00	Droughty	1.00
				Cutbanks cave	0.10	Gravel content	0.46
Rock outcrop	15	Not rated		Not rated		Not rated	

Table 7.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
131:							
Rositas	80	Very limited		Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00	Slope	1.00
		Flooding	0.20	Slope	1.00	Droughty	0.69
						Too sandy	0.50
132:							
Shortbread	85	Not limited		Very limited		Somewhat limited	
				Cutbanks cave	1.00	Droughty	0.13
133:							
Shortbread	40	Very limited		Very limited		Very limited	
		Ponding	1.00	Cutbanks cave	1.00	Ponding	1.00
		Frost action	0.50	Ponding	1.00	Droughty	0.15
Kurstan family	30	Somewhat limited		Somewhat limited		Not limited	
		Frost action	0.50	Cutbanks cave	0.10		
Dusty	20	Very limited		Very limited		Very limited	
		Low strength	1.00	Ponding	1.00	Sodium content	1.00
		Ponding	1.00	Cutbanks cave	0.10	Ponding	1.00
		Shrink-swell	0.50				
		Frost action	0.50				
134:							
Skelon family	35	Very limited		Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00	Droughty	1.00
		Frost action	0.50	Slope	1.00	Slope	1.00
						Gravel content	0.92
						Depth to cemented pan	0.90
Greyeagle family	30	Somewhat limited		Somewhat limited		Very limited	
		Frost action	0.50	Cutbanks cave	0.10	Depth to cemented pan	1.00
						Gravel content	1.00
						Droughty	1.00

Table 7.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
134:							
Detrital	20	Very limited		Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00	Gravel content	1.00
		Frost action	0.50	Slope	1.00	Slope	1.00
						Droughty	0.92
135:							
Skelon family	60	Somewhat limited		Very limited		Very limited	
		Frost action	0.50	Cutbanks cave	1.00	Droughty	1.00
						Gravel content	1.00
						Depth to cemented pan	0.71
Pinaleno family	30	Somewhat limited		Very limited		Very limited	
		Frost action	0.50	Cutbanks cave	1.00	Gravel content	1.00
						Droughty	0.56
						Content of large stones	0.03
136:							
Storybook	80	Somewhat limited		Very limited		Very limited	
		Frost action	0.50	Cutbanks cave	1.00	Gravel content	1.00
						Droughty	0.52
137:							
Stronghold family	45	Somewhat limited		Somewhat limited		Somewhat limited	
		Frost action	0.50	Cutbanks cave	0.10	Gravel content	0.22
		Slope	0.04	Slope	0.04	Slope	0.04
						Content of large stones	0.01
McAllister family	35	Somewhat limited		Very limited		Somewhat limited	
		Shrink-swell	0.78	Cutbanks cave	1.00	Gravel content	0.68
		Frost action	0.50	Slope	0.04	Droughty	0.04
		Slope	0.04			Slope	0.04

Table 7.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
138:							
Sunrock	90	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
				Cutbanks cave	0.10	Gravel content	1.00
						Droughty	1.00
						Content of large stones	0.03
139:							
Sunrock	70	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Content of large stones	0.40	Content of large stones	0.40	Content of large stones	1.00
				Cutbanks cave	0.10	Droughty	1.00
						Gravel content	0.82
Rock outcrop	20	Not rated		Not rated		Not rated	
140:							
Superstition family-	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Cutbanks cave	1.00	Gravel content	1.00
						Droughty	0.86
						Content of large stones	0.54
Carrwash	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Cutbanks cave	1.00	Gravel content	1.00
						Droughty	1.00

Table 7.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
141:							
Taine	90	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Content of large stones	1.00	Content of large stones	1.00	Content of large stones	1.00
		Slope	1.00	Slope	1.00	Droughty	1.00
		Shrink-swell	0.50	Cutbanks cave	0.10	Slope	1.00
142:							
Thimble	85	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Depth to soft bedrock	1.00	Slope	1.00
		Depth to soft bedrock	1.00	Slope	1.00	Content of large stones	1.00
		Content of large stones	1.00	Content of large stones	1.00	Droughty	1.00
		Shrink-swell	0.50	Cutbanks cave	0.10	Gravel content	0.20
Rock outcrop	10	Not rated		Not rated		Not rated	
143:							
Tombstone family	50	Somewhat limited		Somewhat limited		Somewhat limited	
		Frost action	0.50	Slope	0.16	Droughty	0.91
		Slope	0.16	Cutbanks cave	0.10	Slope	0.16
		Content of large stones	0.05	Content of large stones	0.05	Content of large stones	0.08
						Gravel content	0.01
Caralampi family	20	Somewhat limited		Very limited		Somewhat limited	
		Shrink-swell	0.78	Cutbanks cave	1.00	Gravel content	0.68
		Frost action	0.50	Slope	0.16	Droughty	0.37
		Slope	0.16			Slope	0.16

Table 7.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
143:							
Nolam family--------	20	Somewhat limited		Very limited		Very limited	
		Frost action	0.50	Cutbanks cave	1.00	Gravel content	1.00
		Slope	0.16	Slope	0.16	Droughty	0.80
						Content of large stones	0.20
						Slope	0.16
144:							
Torriorthents-------	80	Not rated		Not rated		Not rated	
145:							
Torriorthents-------	50	Not rated		Not rated		Not rated	
Haplocambids--------	35	Not rated		Not rated		Not rated	
146:							
Torriorthents-------	70	Not rated		Not rated		Not rated	
Rock outcrop--------	15	Not rated		Not rated		Not rated	
147:							
Tovar---------------	50	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Low strength	1.00	Slope	1.00	Depth to bedrock	0.54
		Slope	1.00	Too clayey	0.12	Content of large stones	0.08
		Depth to hard bedrock	0.54	Cutbanks cave	0.10	Gravel content	0.01
Grandwash-----------	40	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Content of large stones	1.00	Content of large stones	1.00	Droughty	1.00
		Slope	1.00	Slope	1.00	Content of large stones	1.00
		Low strength	0.22	Cutbanks cave	0.10	Slope	1.00

Table 7.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
148:							
Truxton	75	Somewhat limited		Somewhat limited		Not limited	
		Frost action	0.50	Cutbanks cave	0.10		
		Flooding	0.40				
Truxton, frequently flooded	15	Very limited		Somewhat limited		Very limited	
		Flooding	1.00	Flooding	0.80	Flooding	1.00
		Frost action	0.50	Cutbanks cave	0.10		
149:							
Tumarion	85	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Slope	0.04	Cutbanks cave	0.10	Depth to cemented pan	1.00
				Slope	0.04	Content of large stones	1.00
						Droughty	1.00
						Slope	0.04
150:							
Tumarion	70	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Depth to cemented pan	1.00
		Content of large stones	0.84	Slope	1.00	Content of large stones	1.00
		Depth to hard bedrock	0.79	Content of large stones	0.84	Droughty	1.00
		Frost action	0.50	Cutbanks cave	0.10	Slope	1.00
						Depth to bedrock	0.80
Nickel family	15	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Content of large stones	1.00
		Content of large stones	0.90	Content of large stones	0.90	Slope	1.00
		Frost action	0.50	Cutbanks cave	0.10	Droughty	0.16

Table 7.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
151:							
Tumarion	75	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Depth to cemented pan	1.00
		Depth to hard bedrock	0.99	Slope	1.00	Droughty	1.00
		Frost action	0.50	Cutbanks cave	0.10	Gravel content	1.00
						Slope	1.00
						Depth to bedrock	0.99
Nickel family	15	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Content of large stones	1.00
		Content of large stones	0.92	Content of large stones	0.92	Slope	1.00
		Frost action	0.50	Cutbanks cave	0.10	Droughty	0.16
152:							
Tyro	90	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Depth to cemented pan	1.00
				Cutbanks cave	0.10	Content of large stones	1.00
						Droughty	1.00
						Slope	1.00
153:							
Tyro	90	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Depth to cemented pan	1.00
				Cutbanks cave	0.10	Droughty	1.00
						Gravel content	1.00
						Slope	1.00

Table 7.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
154:							
Tyro	55	Not limited		Somewhat limited		Very limited	
				Cutbanks cave	0.10	Depth to cemented pan	1.00
						Gravel content	1.00
						Droughty	1.00
Sunrock	35	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Frost action	0.50	Cutbanks cave	0.10	Content of large stones	1.00
						Droughty	1.00
						Gravel content	0.82
155:							
Urban land	60	Not rated		Not rated		Not rated	
Calvista family	25	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Frost action	0.50	Cutbanks cave	0.10	Droughty	1.00
						Gravel content	1.00
156:							
Ustorthents	60	Not rated		Not rated		Not rated	
Rock outcrop	30	Not rated		Not rated		Not rated	
157:							
Valena	70	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
				Cutbanks cave	0.10	Droughty	1.00
Carri	20	Somewhat limited		Very limited		Somewhat limited	
		Depth to hard bedrock	0.71	Depth to hard bedrock	1.00	Depth to bedrock	0.71
				Cutbanks cave	0.10	Droughty	0.01

Table 7.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
158:							
Valena	40	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Slope	0.84	Slope	0.84	Droughty	1.00
				Cutbanks cave	0.10	Slope	0.84
Rock outcrop	20	Not rated		Not rated		Not rated	
Carri family	15	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.84	Cutbanks cave	1.00	Slope	0.84
		Shrink-swell	0.50	Slope	0.84		
159:							
Vekol family	85	Somewhat limited		Very limited		Somewhat limited	
		Shrink-swell	0.50	Cutbanks cave	1.00	Gravel content	0.50
				Too clayey	0.12		
160:							
Vekol family	80	Very limited		Somewhat limited		Not limited	
		Shrink-swell	1.00	Too clayey	0.12		
		Low strength	1.00	Cutbanks cave	0.10		
161:							
Vekol family	50	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Cutbanks cave	1.00	Content of large stones	1.00
		Low strength	1.00	Too clayey	0.12		
Whitehills	35	Somewhat limited		Very limited		Very limited	
		Shrink-swell	0.50	Cutbanks cave	1.00	Gravel content	1.00
						Droughty	0.75
						Depth to cemented pan	0.71
						Content of large stones	0.03

Table 7.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
162:							
Vock	60	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to soft bedrock	1.00	Depth to bedrock	1.00
		Depth to soft bedrock	1.00	Slope	1.00	Slope	1.00
				Cutbanks cave	0.10	Droughty	1.00
						Content of large stones	1.00
Elements	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Content of large stones	0.18	Content of large stones	0.18	Content of large stones	1.00
				Cutbanks cave	0.10	Droughty	0.29
						Gravel content	0.08
Rock outcrop	10	Not rated		Not rated		Not rated	
163:							
Vock	45	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to soft bedrock	1.00	Depth to bedrock	1.00
		Depth to soft bedrock	1.00	Slope	1.00	Slope	1.00
		Content of large stones	0.30	Content of large stones	0.30	Droughty	1.00
				Cutbanks cave	0.10	Content of large stones	1.00
Elements	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Content of large stones	0.18	Content of large stones	0.18	Content of large stones	1.00
				Cutbanks cave	0.10	Droughty	0.29
						Gravel content	0.08
Rock outcrop	10	Not rated		Not rated		Not rated	

Table 7.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
164:							
Water	100	Not rated		Not rated		Not rated	
165:							
White House	85	Somewhat limited		Very limited		Somewhat limited	
		Shrink-swell	0.50	Cutbanks cave	1.00	Gravel content	0.41
		Slope	0.04	Too clayey	0.12	Slope	0.04
				Slope	0.04		
166:							
White House family	85	Very limited		Very limited		Very limited	
		Low strength	1.00	Cutbanks cave	1.00	Gravel content	1.00
		Shrink-swell	1.00	Too clayey	0.12	Slope	0.04
		Slope	0.04	Slope	0.04	Droughty	0.01
167:							
Whitehills	80	Somewhat limited		Very limited		Very limited	
		Shrink-swell	0.50	Cutbanks cave	1.00	Gravel content	1.00
						Droughty	0.75
						Depth to cemented pan	0.71
						Content of large stones	0.03
168:							
Wodomont	50	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Content of large stones	1.00
		Frost action	0.50	Content of large stones	0.47	Droughty	1.00
		Content of large stones	0.47	Cutbanks cave	0.10	Slope	1.00
						Gravel content	0.01

Table 7.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
168:							
Kydestea	25	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Content of large stones	1.00	Content of large stones	1.00	Droughty	1.00
		Slope	1.00	Slope	1.00	Gravel content	1.00
		Frost action	0.50	Cutbanks cave	0.10	Slope	1.00
		Shrink-swell	0.22			Content of large stones	0.32
169:							
Wodomont	45	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Content of large stones	0.47	Content of large stones	1.00
		Content of large stones	0.47	Cutbanks cave	0.10	Droughty	1.00
						Gravel content	0.01
Metuck	30	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Content of large stones	0.14	Content of large stones	1.00
		Content of large stones	0.14	Cutbanks cave	0.10	Droughty	1.00
Rock outcrop	15	Not rated		Not rated		Not rated	

Table 7.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
170:							
Wodomont	70	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Droughty	1.00
		Frost action	0.50	Cutbanks cave	0.10	Gravel content	1.00
						Slope	1.00
Rock outcrop	20	Not rated		Not rated		Not rated	
171:							
Yahana family	85	Somewhat limited		Very limited		Very limited	
		Shrink-swell	0.50	Cutbanks cave	1.00	Salinity	1.00
				Too clayey	0.02	Sodium content	1.00
172:							
Zibate family	75	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Droughty	1.00
		Frost action	0.50	Cutbanks cave	0.10	Gravel content	1.00
						Slope	1.00
173:							
Zibate family	80	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Low strength	1.00	Content of large stones	1.00	Content of large stones	1.00
		Content of large stones	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Cutbanks cave	0.10	Droughty	0.98
		Shrink-swell	0.50				

Table 7.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
174:							
Zibate family-------	45	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Shrink-swell	1.00	Slope	1.00	Droughty	1.00
		Slope	1.00	Content of large stones	0.62	Content of large stones	1.00
		Low strength	1.00	Cutbanks cave	0.10	Slope	1.00
		Content of large stones	0.62			Gravel content	0.26
Dutchflat-----------	25	Somewhat limited		Very limited		Not limited	
		Frost action	0.50	Cutbanks cave	1.00		
Tumarion------------	15	Somewhat limited		Very limited		Very limited	
		Content of large stones	0.79	Depth to hard bedrock	1.00	Depth to cemented pan	1.00
		Depth to hard bedrock	0.79	Content of large stones	0.79	Content of large stones	1.00
		Slope	0.63	Slope	0.63	Droughty	1.00
		Frost action	0.50	Cutbanks cave	0.10	Depth to bedrock	0.80
						Slope	0.63

Table 8.--Sewage Disposal

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
1:					
Alko family	85	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Slope	0.74	Seepage	1.00
				Slope	1.00
2:					
Alko family	85	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
				Seepage	1.00
				Slope	0.68
3:					
Appleseed	45	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Content of large stones	1.00
		Content of large stones	0.95	Slope	1.00
Huevi	40	Very limited		Very limited	
		Slope	1.00	Seepage	1.00
				Slope	1.00
4:					
Aridic Argiustolls	60	Not rated		Not rated	
Lithic Haplustolls	30	Not rated		Not rated	
5:					
Arizo	40	Not limited		Very limited	
				Seepage	1.00
				Slope	0.32
Detrital	30	Not limited		Very limited	
				Seepage	1.00
				Slope	0.32
Nickel	20	Not limited		Very limited	
				Seepage	1.00
				Slope	0.32

Table 8.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
6:					
Arizo	40	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
				Seepage	1.00
Franconia	30	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
				Seepage	1.00
Riverwash	20	Not rated		Not rated	
7:					
Arizo	55	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
				Seepage	1.00
Riverwash	35	Not rated		Not rated	
8:					
Arizo	50	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
				Seepage	1.00
				Slope	0.08
Riverwash	25	Not rated		Not rated	
9:					
Arizo	60	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Flooding	0.40	Flooding	0.40
Riverwash	30	Not rated		Not rated	
10:					
Arizo	55	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Filtering capacity	1.00	Seepage	1.00
		Content of large stones	0.20	Content of large stones	0.96
Riverwash	35	Not rated		Not rated	
11:					
Azure	45	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Depth to soft bedrock	1.00
				Slope	1.00

Table 8.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
11:					
Detrital	30	Very limited		Very limited	
		Slope	1.00	Seepage	1.00
				Slope	1.00
Antares	20	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slope	1.00	Seepage	1.00
				Slope	1.00
12:					
Birdsbeak	90	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slope	1.00	Slope	1.00
13:					
Bluebird	50	Very limited		Very limited	
		Restricted permeability	1.00	Seepage	1.00
				Slope	1.00
Detrital	40	Not limited		Very limited	
				Seepage	1.00
				Slope	1.00
14:					
Bluebird	70	Very limited		Somewhat limited	
		Restricted permeability	1.00	Seepage	0.50
				Slope	0.08
Lostman	25	Not limited		Very limited	
				Seepage	1.00
				Slope	0.08
15:					
Carrizo	75	Not limited		Very limited	
				Seepage	1.00
				Slope	0.08
Carrizo, rarely flooded	20	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Flooding	0.40	Flooding	0.40
16:					
Carrizo	75	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Filtering capacity	1.00	Seepage	1.00

Table 8.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
16:					
Riverwash	15	Not rated		Not rated	
17:					
Carrizo	75	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Filtering capacity	1.00	Seepage	1.00
				Slope	0.92
Riverwash	15	Not rated		Not rated	
18:					
Chuckawalla	65	Somewhat limited		Very limited	
		Slope	0.04	Seepage	1.00
				Slope	1.00
Riverbend	25	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Slope	0.04	Slope	1.00
19:					
Circular	45	Not limited		Very limited	
				Seepage	1.00
Circular	40	Not limited		Very limited	
				Seepage	1.00
20:					
Circular	50	Not limited		Very limited	
				Seepage	1.00
Dusty	30	Very limited		Very limited	
		Restricted permeability	1.00	Ponding	1.00
		Ponding	1.00	Seepage	0.50
21:					
Cod	90	Not limited		Very limited	
				Seepage	1.00
				Slope	0.32
22:					
Cordes	45	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
				Seepage	1.00
				Slope	0.08
Manikan	25	Very limited		Very limited	
		Restricted permeability	1.00	Seepage	1.00
				Slope	0.08

Table 8.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
22:					
Riverwash	10	Not rated		Not rated	
23:					
Cupel	60	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
		Content of large stones	0.06	Content of large stones	0.72
				Seepage	0.50
Rock outcrop	20	Not rated		Not rated	
24:					
Cyclopic	80	Very limited		Very limited	
		Restricted permeability	1.00	Depth to cemented pan	1.00
		Depth to cemented pan	1.00	Content of large stones	1.00
		Content of large stones	1.00	Slope	0.92
25:					
Deluge	50	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Restricted permeability	1.00	Slope	0.68
		Depth to bedrock	0.69	Depth to hard bedrock	0.26
Gotchell	17	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
				Seepage	1.00
				Slope	0.68
Sunstroke	13	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to bedrock	0.94	Seepage	1.00
				Depth to hard bedrock	0.84
				Slope	0.68
26:					
Detrital	45	Not limited		Very limited	
				Seepage	1.00
				Slope	1.00

Table 8.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
26:					
Bluebird	35	Very limited		Very limited	
		Restricted permeability	1.00	Seepage	1.00
				Slope	1.00
27:					
Detrital	55	Not limited		Very limited	
				Seepage	1.00
				Slope	0.32
Nealy	35	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Restricted permeability	0.50	Seepage	1.00
				Slope	0.32
28:					
Detrital	60	Not limited		Very limited	
				Seepage	1.00
				Slope	0.32
Nickel	35	Not limited		Very limited	
				Seepage	1.00
				Slope	0.32
29:					
Detrital	60	Not limited		Very limited	
				Seepage	1.00
				Slope	0.08
Nickel family	25	Somewhat limited		Very limited	
		Depth to cemented pan	0.99	Seepage	1.00
				Depth to cemented pan	0.96
				Slope	0.08
30:					
Detrital	50	Not limited		Very limited	
				Seepage	1.00
				Slope	0.08
Skelon family	30	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
				Seepage	1.00
				Slope	0.08

Table 8.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
31:					
Dusty	70	Very limited		Very limited	
		Restricted permeability	1.00	Seepage	1.00
		Ponding	1.00	Ponding	1.00
				Slope	0.32
Kurstan family	15	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
				Slope	0.32
32:					
Dutchflat	80	Somewhat limited		Very limited	
		Restricted permeability	0.50	Seepage	1.00
33:					
Dye	50	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
Tovar	20	Very limited		Very limited	
		Restricted permeability	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Slope	1.00		
Rock outcrop	15	Not rated		Not rated	
34:					
Faraway	70	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Depth to soft bedrock	1.00
				Slope	1.00
Rock outcrop	20	Not rated		Not rated	
35:					
Fig	50	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slope	1.00	Slope	1.00
Blind	25	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Restricted permeability	0.50	Seepage	0.50
		Content of large stones	0.03	Content of large stones	0.02

Table 8.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
35:					
Nodman	15	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slope	1.00	Slope	1.00
36:					
Filaree	80	Not limited		Very limited	
				Seepage	1.00
				Slope	0.32
37:					
Filaree	60	Not limited		Very limited	
				Seepage	1.00
				Slope	0.32
Dutchflat	30	Somewhat limited		Very limited	
		Restricted permeability	0.50	Seepage	1.00
				Slope	0.32
38:					
Garnet	50	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
				Slope	0.32
Dutchflat	40	Somewhat limited		Very limited	
		Restricted permeability	0.50	Seepage	1.00
				Slope	0.32
39:					
Goesling family	75	Very limited		Somewhat limited	
		Restricted permeability	1.00	Slope	0.92
				Seepage	0.50
40:					
Goldroad	75	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Depth to soft bedrock	1.00
				Slope	1.00
Rock outcrop	10	Not rated		Not rated	

Table 8.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
41:					
Goldroad	75	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
		Content of large stones	0.03	Content of large stones	0.56
Rock outcrop	20	Not rated		Not rated	
42:					
Gonzales	60	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Depth to soft bedrock	1.00
				Slope	1.00
Rock outcrop	25	Not rated		Not rated	
43:					
Goodsprings family	75	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Slope	1.00	Slope	1.00
				Seepage	1.00
44:					
Gotchell	50	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Slope	1.00	Seepage	1.00
				Slope	1.00
Sunstroke	30	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Slope	1.00	Seepage	1.00
		Depth to bedrock	0.94	Slope	1.00
				Depth to hard bedrock	0.84
45:					
Graham	60	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	0.04	Slope	1.00

Table 8.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
45:					
Arivaca	25	Very limited		Very limited	
		Restricted permeability	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Slope	0.04		
46:					
Graham	60	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
Rock outcrop	20	Not rated		Not rated	
47:					
Grandwash	85	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Content of large stones	1.00	Content of large stones	1.00
		Slope	0.96	Slope	1.00
48:					
Greyeagle family	80	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Slope	1.00	Slope	1.00
		Content of large stones	1.00	Content of large stones	1.00
				Seepage	1.00
49:					
Greyeagle family	75	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Slope	1.00	Slope	1.00
				Seepage	1.00
50:					
Greyeagle family	70	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
				Slope	1.00
Cyclopic	20	Very limited		Very limited	
		Restricted permeability	1.00	Depth to cemented pan	1.00
		Depth to cemented pan	1.00	Slope	1.00
		Content of large stones	0.05	Content of large stones	0.62

Table 8.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
51:					
Greyeagle family----	70	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
				Seepage	1.00
				Slope	1.00
Skelon family-------	20	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
				Seepage	1.00
				Slope	1.00
52:					
Greyeagle family----	60	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Slope	1.00	Slope	1.00
Skelon family-------	20	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Slope	1.00	Seepage	1.00
				Slope	1.00
53:					
Gypsids-------------	90	Not rated		Not rated	
54:					
Haplogypsids, eroded	70	Not rated		Not rated	
Haplogypsids--------	30	Not rated		Not rated	
55:					
Hassell family------	50	Very limited		Very limited	
		Restricted permeability	1.00	Depth to soft bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Slope	1.00		
Lampshire-----------	25	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Depth to soft bedrock	1.00
				Slope	1.00
Rock outcrop--------	20	Not rated		Not rated	

Table 8.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
56:					
Hindu	60	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
		Content of large stones	0.04	Content of large stones	0.62
Rock outcrop	20	Not rated		Not rated	
57:					
Hooks family	45	Not limited		Very limited	
				Seepage	1.00
				Slope	0.08
Courtland family	40	Very limited		Somewhat limited	
		Restricted permeability	1.00	Depth to hard bedrock	0.88
		Depth to bedrock	0.96	Seepage	0.50
				Slope	0.08
58:					
Hosta family	75	Very limited		Somewhat limited	
		Restricted permeability	1.00	Slope	0.68
59:					
House Mountain family	40	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Depth to soft bedrock	1.00
				Slope	1.00
Calvista family	30	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
Rock outcrop	20	Not rated		Not rated	
60:					
Huevi	90	Not limited		Very limited	
				Seepage	1.00
				Slope	0.32
61:					
Huevi	85	Very limited		Very limited	
		Slope	1.00	Slope	1.00
				Seepage	1.00

Table 8.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
62:					
Huevi	80	Very limited		Very limited	
		Slope	1.00	Slope	1.00
				Seepage	1.00
63:					
Huevi	65	Somewhat limited		Very limited	
		Slope	0.84	Seepage	1.00
				Slope	1.00
Carrizo	15	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Flooding	0.40	Flooding	0.40
				Slope	0.08
64:					
Huevi	65	Very limited		Very limited	
		Slope	1.00	Seepage	1.00
				Slope	1.00
Carrwash	20	Very limited		Very limited	
		Filtering capacity	1.00	Slope	1.00
		Slope	1.00	Seepage	1.00
65:					
Huevi	50	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Content of large stones	1.00	Content of large stones	1.00
				Seepage	1.00
Sunrock	30	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
Rock outcrop	10	Not rated		Not rated	
66:					
Hulda	75	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
67:					
Hulda	70	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
Rock outcrop	20	Not rated		Not rated	

Table 8.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
68:					
Hulda	50	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
		Content of large stones	1.00	Content of large stones	1.00
Rock outcrop	35	Not rated		Not rated	
69:					
Ireteba family	45	Somewhat limited		Very limited	
		Flooding	0.40	Seepage	1.00
				Flooding	0.40
Arizo	30	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
				Seepage	1.00
70:					
Jagerson	85	Not limited		Very limited	
				Seepage	1.00
				Slope	0.08
71:					
Jagerson	45	Not limited		Very limited	
				Seepage	1.00
Nealy	40	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Restricted permeability	0.50	Seepage	1.00
72:					
Kingtut	45	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
				Slope	1.00
Promontory	35	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
				Slope	1.00
73:					
Kinley	75	Very limited		Very limited	
		Slope	1.00	Slope	1.00
				Seepage	1.00

Table 8.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
74:					
Kurstan family	60	Not limited		Very limited	
				Seepage	1.00
				Slope	0.32
Dusty	30	Very limited		Very limited	
		Restricted permeability	1.00	Seepage	1.00
		Ponding	1.00	Ponding	1.00
				Slope	0.32
75:					
Lampshire	65	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Depth to soft bedrock	1.00
				Slope	1.00
Rock outcrop	20	Not rated		Not rated	
76:					
Lostman	80	Not limited		Very limited	
				Seepage	1.00
				Slope	0.08
77:					
Lostman	80	Not limited		Very limited	
				Seepage	1.00
				Slope	0.08
78:					
Luzena	45	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	0.63	Slope	1.00
Thunderbird	30	Very limited		Very limited	
		Restricted permeability	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Slope	0.63		
79:					
Lykorly	85	Very limited		Somewhat limited	
		Restricted permeability	1.00	Seepage	0.50
				Slope	0.08
80:					
Lykorly	75	Very limited		Somewhat limited	
		Restricted permeability	1.00	Slope	0.08

Table 8.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
81:					
Manikan	60	Very limited		Very limited	
		Restricted permeability	1.00	Seepage	1.00
Nuffel	25	Somewhat limited		Somewhat limited	
		Restricted permeability	0.50	Seepage	0.50
82:					
Mathis family	55	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Filtering capacity	1.00	Content of large stones	1.00
		Content of large stones	1.00	Seepage	1.00
				Slope	0.08
Riverwash	35	Not rated		Not rated	
83:					
Mayswell	75	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
		Content of large stones	0.23	Content of large stones	0.98
Rock outcrop	15	Not rated		Not rated	
84:					
Meadview	80	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Slope	1.00	Slope	1.00
		Content of large stones	0.99	Content of large stones	1.00
85:					
Meadview	60	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Slope	1.00	Slope	1.00
		Content of large stones	0.18	Content of large stones	1.00
Yurm family	30	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
				Slope	1.00
				Content of large stones	0.01

Table 8.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
86:					
Meriwhitica	65	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
Rock outcrop	15	Not rated		Not rated	
87:					
Mextank	80	Not limited		Very limited	
				Seepage	1.00
				Slope	1.00
88:					
Milkweed	50	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Slope	0.37	Slope	1.00
Quartermaster	30	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Restricted permeability	0.50	Slope	1.00
				Seepage	0.50
Buckndoe	15	Somewhat limited		Very limited	
		Depth to cemented pan	0.80	Seepage	1.00
		Slope	0.37	Slope	1.00
				Depth to cemented pan	0.46
89:					
Milok	55	Not limited		Very limited	
				Seepage	1.00
				Slope	1.00
Pastern	35	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
				Seepage	1.00
				Slope	1.00
90:					
Mutang	45	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
				Depth to soft bedrock	1.00

Table 8.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
90:					
Dutchflat	40	Somewhat limited		Very limited	
		Restricted permeability	0.50	Seepage	1.00
91:					
Mutang	55	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Depth to soft bedrock	1.00
				Slope	1.00
Wikieup	25	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
Rock outcrop	15	Not rated		Not rated	
92:					
Nealy	60	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
				Slope	0.68
				Seepage	0.50
Shamock family	30	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
				Seepage	1.00
				Slope	0.68
93:					
Nealy	40	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Restricted permeability	0.50	Seepage	1.00
				Slope	1.00
Skelon family	30	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
				Seepage	1.00
				Slope	1.00
Detrital	25	Not limited		Very limited	
				Seepage	1.00
				Slope	1.00

Table 8.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
94:					
Nickel family-------	45	Very limited		Very limited	
		Slope	1.00	Slope	1.00
				Seepage	1.00
Bluebird----------	25	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Restricted permeability	1.00	Seepage	1.00
95:					
Nickel----------	45	Not limited		Very limited	
				Seepage	1.00
				Slope	1.00
Skelon family-------	25	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
				Seepage	1.00
				Slope	1.00
Detrital----------	15	Not limited		Very limited	
				Seepage	1.00
				Slope	1.00
96:					
Nickel family-------	35	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Restricted permeability	1.00	Seepage	1.00
Topawa family-------	30	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Restricted permeability	1.00	Seepage	1.00
Eba family----------	25	Very limited		Very limited	
		Restricted permeability	1.00	Slope	1.00
		Slope	1.00	Seepage	0.50
97:					
Nodman----------	40	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
				Depth to soft bedrock	1.00
				Slope	1.00

Table 8.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
97:					
Antares	35	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
				Slope	1.00
				Depth to hard bedrock	0.99
98:					
Nodman	60	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slope	0.04	Slope	1.00
Courtland family	25	Very limited		Very limited	
		Restricted permeability	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Slope	0.04	Seepage	0.82
99:					
Nodman	65	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slope	1.00	Slope	1.00
Rock outcrop	20	Not rated		Not rated	
100:					
Nodman	60	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slope	1.00	Slope	1.00
		Content of large stones	0.55	Content of large stones	0.08
Romero family	20	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Depth to soft bedrock	1.00
		Content of large stones	0.75	Slope	1.00
101:					
Nolam family	35	Very limited		Very limited	
		Restricted permeability	1.00	Seepage	1.00
				Content of large stones	0.83
				Slope	0.32

Table 8.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
101:					
Ustalfic Petrocalcids	30	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Restricted permeability	0.50	Seepage	1.00
				Slope	0.32
				Content of large stones	0.01
Caralampi family	25	Somewhat limited		Very limited	
		Restricted permeability	0.50	Seepage	1.00
				Slope	0.32
102:					
Ohaco family	50	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
				Seepage	1.00
				Slope	0.68
Bluebird	40	Very limited		Very limited	
		Restricted permeability	1.00	Seepage	1.00
				Slope	0.68
103:					
Orejano	75	Very limited		Very limited	
		Slope	1.00	Seepage	1.00
				Slope	1.00
104:					
Pantak family	45	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
		Content of large stones	1.00	Content of large stones	1.00
Taine	25	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
		Content of large stones	1.00	Content of large stones	1.00

Table 8.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
104:					
Terino family-------	15	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Slope	1.00	Slope	1.00
		Content of large stones	0.68	Content of large stones	0.99
105:					
Pastern----------	50	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Slope	0.63	Seepage	1.00
				Slope	1.00
Strych----------	40	Somewhat limited		Very limited	
		Slope	0.63	Seepage	1.00
				Slope	1.00
106:					
Peachsprings--------	75	Very limited		Very limited	
		Restricted permeability	1.00	Seepage	1.00
		Slope	0.04	Slope	1.00
Havasupai----------	20	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Slope	1.00	Seepage	1.00
				Slope	1.00
107:					
Pearce----------	80	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Content of large stones	1.00	Content of large stones	1.00
		Slope	0.04	Slope	1.00
108:					
Pearce----------	50	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
				Seepage	1.00
Detrital----------	25	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Content of large stones	1.00	Content of large stones	1.00
				Seepage	1.00

Table 8.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
108:					
Rock outcrop--------	10	Not rated		Not rated	
109:					
Pearce--------------	70	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
Rock outcrop--------	15	Not rated		Not rated	
110:					
Pedregosa family----	50	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
				Seepage	0.50
				Content of large stones	0.18
Tombstone family----	40	Somewhat limited		Very limited	
		Depth to cemented pan	0.78	Seepage	1.00
		Restricted permeability	0.50	Depth to cemented pan	0.42
				Slope	0.32
111:					
Pidineen family-----	65	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
				Seepage	1.00
				Slope	0.92
Tricon family-------	15	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
				Slope	0.92
112:					
Pits-dumps, mine----	100	Not rated		Not rated	
113:					
Playa---------------	100	Not rated		Not rated	
114:					
Prieta--------------	75	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Depth to soft bedrock	1.00
		Content of large stones	0.98	Content of large stones	1.00
				Slope	1.00

Table 8.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
114:					
Rock outcrop	15	Not rated		Not rated	
115:					
Quagwa	85	Somewhat limited		Somewhat limited	
		Restricted permeability	0.50	Seepage	0.50
		Flooding	0.40	Flooding	0.40
116:					
Razorback	90	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
117:					
Razorback	60	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
				Seepage	0.50
Rock outcrop	20	Not rated		Not rated	
118:					
Razorback	65	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
Rock outcrop	30	Not rated		Not rated	
119:					
Rift	75	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Restricted permeability	1.00	Ponding	1.00
		Ponding	1.00	Seepage	0.50
120:					
Rift	85	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Restricted permeability	1.00	Ponding	1.00
		Ponding	1.00	Seepage	0.50
121:					
Rillino family	50	Not limited		Very limited	
				Seepage	1.00
				Slope	0.08

Table 8.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
121:					
Shamock family------	25	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
				Seepage	1.00
				Slope	0.08
Dutchflat----------	20	Somewhat limited		Very limited	
		Restricted permeability	0.50	Seepage	1.00
				Slope	0.08
122:					
Rock outcrop--------	50	Not rated		Not rated	
Appleseed----------	40	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
		Content of large stones	1.00	Content of large stones	1.00
123:					
Rock outcrop--------	55	Not rated		Not rated	
Pearce-------------	30	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
		Content of large stones	0.68	Content of large stones	1.00
124:					
Rock outcrop--------	65	Not rated		Not rated	
Razorback----------	30	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
				Seepage	0.50
125:					
Rock outcrop--------	50	Not rated		Not rated	
Torriorthents-------	40	Not rated		Not rated	
126:					
Rock outcrop--------	50	Not rated		Not rated	
Torriorthents-------	40	Not rated		Not rated	

Table 8.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
127:					
Rock outcrop	50	Not rated		Not rated	
Valena	25	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
Kopie family	20	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Seepage	1.00
				Slope	1.00
128:					
Rolie	60	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Slope	0.37	Slope	1.00
Dean	25	Somewhat limited		Very limited	
		Restricted permeability	0.50	Slope	1.00
		Slope	0.37	Seepage	0.50
129:					
Romero	45	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
Chiricahua	30	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Depth to soft bedrock	1.00
				Slope	1.00
Rock outcrop	20	Not rated		Not rated	
130:					
Romero	60	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slope	1.00	Slope	1.00
Lampshire	20	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Depth to soft bedrock	1.00
				Slope	1.00

Table 8.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
130:					
Rock outcrop	15	Not rated		Not rated	
131:					
Rositas	80	Very limited		Very limited	
		Slope	1.00	Seepage	1.00
		Flooding	0.20	Slope	1.00
				Flooding	0.20
132:					
Shortbread	85	Not limited		Very limited	
				Seepage	1.00
				Slope	0.08
133:					
Shortbread	40	Very limited		Very limited	
		Ponding	1.00	Seepage	1.00
				Ponding	1.00
				Slope	0.08
Kurstan family	30	Not limited		Very limited	
				Seepage	1.00
Dusty	20	Very limited		Very limited	
		Restricted permeability	1.00	Ponding	1.00
		Ponding	1.00		
134:					
Skelon family	35	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Slope	1.00	Seepage	1.00
				Slope	1.00
Greyeagle family	30	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
				Slope	0.92
Detrital	20	Very limited		Very limited	
		Slope	1.00	Seepage	1.00
				Slope	1.00
135:					
Skelon family	60	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
				Seepage	1.00
				Slope	0.08

Table 8.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
135:					
Pinaleno family-----	30	Not limited		Very limited	
				Seepage	1.00
				Slope	0.08
136:					
Storybook-----------	80	Somewhat limited		Very limited	
		Restricted permeability	0.50	Seepage	1.00
137:					
Stronghold family---	45	Somewhat limited		Very limited	
		Slope	0.04	Seepage	1.00
				Slope	1.00
McAllister family---	35	Very limited		Very limited	
		Restricted permeability	1.00	Seepage	1.00
		Slope	0.04	Slope	1.00
138:					
Sunrock-------------	90	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
139:					
Sunrock-------------	70	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
		Content of large stones	0.40	Content of large stones	1.00
Rock outcrop--------	20	Not rated		Not rated	
140:					
Superstition family-	40	Very limited		Very limited	
		Slope	1.00	Slope	1.00
				Seepage	1.00
Carrwash------------	35	Very limited		Very limited	
		Filtering capacity	1.00	Slope	1.00
		Slope	1.00	Seepage	1.00
141:					
Taine---------------	90	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Content of large stones	1.00	Slope	1.00
		Slope	1.00	Content of large stones	1.00

Table 8.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
142:					
Thimble	85	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Depth to soft bedrock	1.00
		Content of large stones	1.00	Slope	1.00
				Content of large stones	0.99
Rock outcrop	10	Not rated		Not rated	
143:					
Tombstone family	50	Somewhat limited		Very limited	
		Slope	0.16	Seepage	1.00
		Content of large stones	0.05	Slope	1.00
				Content of large stones	0.56
Caralampi family	20	Somewhat limited		Very limited	
		Restricted permeability	0.50	Seepage	1.00
		Slope	0.16	Slope	1.00
Nolam family	20	Somewhat limited		Very limited	
		Restricted permeability	0.50	Seepage	1.00
		Slope	0.16	Slope	1.00
144:					
Torriorthents	80	Not rated		Not rated	
145:					
Torriorthents	50	Not rated		Not rated	
Haplocambids	35	Not rated		Not rated	
146:					
Torriorthents	70	Not rated		Not rated	
Rock outcrop	15	Not rated		Not rated	
147:					
Tovar	50	Very limited		Very limited	
		Restricted permeability	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Slope	1.00		

Table 8.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
147:					
Grandwash	40	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Content of large stones	1.00	Slope	1.00
		Slope	1.00	Content of large stones	1.00
148:					
Truxton	75	Somewhat limited		Somewhat limited	
		Restricted permeability	0.50	Seepage	0.50
		Flooding	0.40	Flooding	0.40
Truxton, frequently flooded	15	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Restricted permeability	0.50	Seepage	0.50
149:					
Tumarion	85	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Slope	0.04	Slope	1.00
150:					
Tumarion	70	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Slope	1.00	Slope	1.00
		Content of large stones	0.84	Seepage	1.00
				Content of large stones	0.99
Nickel family	15	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Content of large stones	0.90	Content of large stones	1.00
				Seepage	1.00

Table 8.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
151:					
Tumarion	75	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Slope	1.00	Seepage	1.00
				Slope	1.00
Nickel family	15	Very limited		Very limited	
		Slope	1.00	Content of large stones	1.00
		Content of large stones	0.92	Seepage	1.00
				Slope	1.00
152:					
Tyro	90	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Slope	1.00	Slope	1.00
153:					
Tyro	90	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Slope	1.00	Slope	1.00
154:					
Tyro	55	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
				Slope	1.00
Sunrock	35	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
				Slope	1.00
155:					
Urban land	60	Not rated		Not rated	
Calvista family	25	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
				Slope	0.68

Table 8.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
156:					
Ustorthents	60	Not rated		Not rated	
Rock outcrop	30	Not rated		Not rated	
157:					
Valena	70	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
				Slope	1.00
Carri	20	Very limited		Very limited	
		Restricted permeability	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
				Seepage	0.50
158:					
Valena	40	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	0.84	Slope	1.00
Rock outcrop	20	Not rated		Not rated	
Carri family	15	Very limited		Very limited	
		Restricted permeability	1.00	Seepage	1.00
		Slope	0.84	Slope	1.00
159:					
Vekol family	85	Very limited		Very limited	
		Restricted permeability	1.00	Seepage	1.00
		Filtering capacity	1.00	Slope	0.68
160:					
Vekol family	80	Very limited		Somewhat limited	
		Restricted permeability	1.00	Seepage	0.50
161:					
Vekol family	50	Very limited		Somewhat limited	
		Restricted permeability	1.00	Slope	0.68
Whitehills	35	Very limited		Very limited	
		Restricted permeability	1.00	Depth to cemented pan	1.00
		Depth to cemented pan	1.00	Slope	0.68
				Seepage	0.50

Table 8.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
162:					
Vock	60	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slope	1.00	Slope	1.00
				Seepage	1.00
Elements	20	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Restricted permeability	0.50	Seepage	1.00
		Content of large stones	0.18	Content of large stones	0.99
Rock outcrop	10	Not rated		Not rated	
163:					
Vock	45	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slope	1.00	Slope	1.00
		Content of large stones	0.30		
Elements	40	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Restricted permeability	0.50	Seepage	1.00
		Content of large stones	0.18	Content of large stones	0.99
Rock outcrop	10	Not rated		Not rated	
164:					
Water	100	Not rated		Not rated	
165:					
White House	85	Very limited		Very limited	
		Restricted permeability	1.00	Seepage	1.00
		Slope	0.04	Slope	1.00
166:					
White House family	85	Very limited		Very limited	
		Restricted permeability	1.00	Seepage	1.00
		Slope	0.04	Slope	1.00

Table 8.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
167:					
Whitehills	80	Very limited		Very limited	
		Restricted permeability	1.00	Depth to cemented pan	1.00
		Depth to cemented pan	1.00	Seepage	0.50
				Slope	0.08
168:					
Wodomont	50	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Seepage	1.00
		Content of large stones	0.47	Content of large stones	1.00
				Slope	1.00
Kydestea	25	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Content of large stones	1.00	Content of large stones	1.00
		Slope	1.00	Slope	1.00
169:					
Wodomont	45	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
		Content of large stones	0.47	Seepage	1.00
				Content of large stones	1.00
Metuck	30	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
		Content of large stones	0.14	Content of large stones	0.90
Rock outcrop	15	Not rated		Not rated	
170:					
Wodomont	70	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
				Seepage	0.50
				Content of large stones	0.02

Table 8.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
170:					
Rock outcrop	20	Not rated		Not rated	
171:					
Yahana family	85	Very limited		Very limited	
		Restricted permeability	1.00	Seepage	1.00
172:					
Zibate family	75	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
173:					
Zibate family	80	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Content of large stones	1.00	Slope	1.00
		Slope	1.00	Content of large stones	1.00
174:					
Zibate family	45	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
		Content of large stones	0.62	Content of large stones	1.00
Dutchflat	25	Somewhat limited		Very limited	
		Restricted permeability	0.50	Seepage	1.00
				Slope	1.00
Tumarion	15	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Content of large stones	0.79	Seepage	1.00
		Slope	0.63	Slope	1.00
				Content of large stones	0.97

Table 9.--Landfills

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1:							
Alko family---------	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.74	Slope	0.74	Depth to cemented pan	1.00
						Slope	0.74
						Seepage	0.50
						Gravel content	0.26
2:							
Alko family---------	85	Not limited		Not limited		Very limited	
						Depth to cemented pan	1.00
						Seepage	0.50
						Gravel content	0.36
3:							
Appleseed-----------	45	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Depth to bedrock	1.00
		Slope	1.00			Slope	1.00
		Content of large stones	0.95			Content of large stones	0.95
						Seepage	0.50
Huevi---------------	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Gravel content	1.00
						Slope	1.00
						Seepage	0.50
4:							
Aridic Argiustolls--	60	Not rated		Very limited		Not rated	
				Slope	1.00		
Lithic Haplustolls--	30	Not rated		Very limited		Not rated	
				Depth to bedrock	1.00		
				Slope	1.00		

Table 9.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
5:							
Arizo	40	Somewhat limited		Not limited		Very limited	
		Too Sandy	0.50			Seepage	1.00
						Gravel content	1.00
						Too Sandy	0.50
Detrital	30	Not limited		Not limited		Very limited	
						Gravel content	1.00
						Seepage	0.50
Nickel	20	Not limited		Not limited		Very limited	
						Gravel content	1.00
						Seepage	0.50
6:							
Arizo	40	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Seepage	1.00
		Too Sandy	0.50			Gravel content	1.00
						Too Sandy	0.50
Franconia	30	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Seepage	1.00
		Too Sandy	0.50			Too Sandy	0.50
Riverwash	20	Not rated		Not rated		Not rated	
7:							
Arizo	55	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Seepage	1.00
		Too Sandy	0.50			Gravel content	1.00
						Too Sandy	0.50
Riverwash	35	Not rated		Not rated		Not rated	

Table 9.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
8:							
Arizo	50	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Seepage	1.00
		Too Sandy	0.50			Gravel content	1.00
						Too Sandy	0.50
Riverwash	25	Not rated		Not rated		Not rated	
9:							
Arizo	60	Very limited		Somewhat limited		Very limited	
		Too Sandy	1.00	Flooding	0.40	Too Sandy	1.00
		Flooding	0.40			Seepage	1.00
		Content of large stones	0.01			Gravel content	0.99
						Content of large stones	0.01
Riverwash	30	Not rated		Not rated		Not rated	
10:							
Arizo	55	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Too Sandy	1.00
		Too Sandy	1.00			Seepage	1.00
		Content of large stones	0.20			Gravel content	1.00
						Content of large stones	0.20
Riverwash	35	Not rated		Not rated		Not rated	
11:							
Azure	45	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Depth to bedrock	1.00
		Slope	1.00			Gravel content	1.00
						Slope	1.00
						Seepage	0.50

Table 9.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
11:							
Detrital	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Gravel content	1.00
						Slope	1.00
						Seepage	0.50
Antares	20	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Depth to bedrock	1.00
		Slope	1.00			Gravel content	1.00
						Slope	1.00
						Seepage	0.50
12:							
Birdsbeak	90	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Depth to bedrock	1.00
		Slope	1.00			Gravel content	1.00
						Slope	1.00
13:							
Bluebird	50	Not limited		Not limited		Very limited	
						Seepage	1.00
						Gravel content	1.00
Detrital	40	Not limited		Not limited		Very limited	
						Gravel content	1.00
						Seepage	0.50
14:							
Bluebird	70	Not limited		Not limited		Very limited	
						Gravel content	1.00
Lostman	25	Not limited		Not limited		Somewhat limited	
						Seepage	0.50
						Gravel content	0.44

Table 9.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
15:							
Carrizo	75	Somewhat limited		Not limited		Very limited	
		Too Sandy	0.50			Seepage	1.00
						Gravel content	1.00
						Too Sandy	0.50
Carrizo, rarely flooded	20	Somewhat limited		Somewhat limited		Very limited	
		Too Sandy	0.50	Flooding	0.40	Seepage	1.00
		Flooding	0.40			Gravel content	1.00
						Too Sandy	0.50
16:							
Carrizo	75	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Seepage	1.00
		Too Sandy	0.50			Gravel content	1.00
						Too Sandy	0.50
Riverwash	15	Not rated		Not rated		Not rated	
17:							
Carrizo	75	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Too Sandy	1.00
		Too Sandy	1.00			Seepage	1.00
						Gravel content	1.00
Riverwash	15	Not rated		Not rated		Not rated	
18:							
Chuckawalla	65	Somewhat limited		Somewhat limited		Very limited	
		Too Sandy	0.50	Slope	0.04	Seepage	1.00
		Slope	0.04			Gravel content	1.00
						Too Sandy	0.50
						Slope	0.04
Riverbend	25	Very limited		Somewhat limited		Very limited	
		Too Sandy	1.00	Slope	0.04	Too Sandy	1.00
		Slope	0.04			Seepage	1.00
						Gravel content	1.00
						Slope	0.04

Table 9.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
19:							
Circular	45	Not limited		Not limited		Somewhat limited	
						Seepage	0.50
Circular	40	Somewhat limited		Not limited		Very limited	
		Too Sandy	0.50			Seepage	1.00
						Too Sandy	0.50
						Gravel content	0.03
20:							
Circular	50	Not limited		Not limited		Somewhat limited	
						Seepage	0.50
Dusty	30	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
21:							
Cod	90	Not limited		Not limited		Somewhat limited	
						Gravel content	0.79
						Seepage	0.50
22:							
Cordes	45	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Flooding	1.00	Seepage	0.50
						Gravel content	0.30
Manikan	25	Not limited		Not limited		Somewhat limited	
						Seepage	0.50
Riverwash	10	Not rated		Not rated		Not rated	
23:							
Cupel	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00			Slope	1.00
		Content of large stones	0.06			Gravel content	1.00
						Content of large stones	0.06

Table 9.?-Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
23:							
Rock outcrop--------	20	Not rated		Not rated		Not rated	
24:							
Cyclopic----------	80	Very limited		Not limited		Very limited	
		Content of large stones	1.00			Depth to cemented pan	1.00
						Hard to compact	1.00
						Content of large stones	1.00
25:							
Deluge----------	50	Very limited		Not limited		Very limited	
		Depth to bedrock	1.00			Depth to cemented pan	1.00
						Gravel content	1.00
						Depth to bedrock	0.26
Gotchell----------	17	Very limited		Not limited		Very limited	
		Depth to bedrock	1.00			Depth to cemented pan	1.00
						Depth to bedrock	1.00
						Gravel content	1.00
						Seepage	0.50
Sunstroke----------	13	Very limited		Not limited		Very limited	
		Depth to bedrock	1.00			Depth to cemented pan	1.00
						Gravel content	1.00
						Depth to bedrock	0.84
						Seepage	0.50
26:							
Detrital----------	45	Not limited		Not limited		Very limited	
						Gravel content	1.00
						Seepage	0.50

Table 9.?-Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
26:							
Bluebird	35	Not limited		Not limited		Very limited	
						Gravel content	1.00
						Seepage	0.50
27:							
Detrital	55	Not limited		Not limited		Very limited	
						Gravel content	1.00
						Seepage	0.50
Nealy	35	Somewhat limited		Not limited		Very limited	
		Depth to thin cemented pan	0.50			Depth to cemented pan	1.00
						Gravel content	0.45
28:							
Detrital	60	Not limited		Not limited		Very limited	
						Gravel content	1.00
						Seepage	0.50
Nickel	35	Somewhat limited		Not limited		Very limited	
		Too Sandy	0.50			Gravel content	1.00
						Seepage	0.50
						Too Sandy	0.50
29:							
Detrital	60	Not limited		Not limited		Very limited	
						Gravel content	1.00
						Seepage	0.50
Nickel family	25	Not limited		Not limited		Very limited	
						Gravel content	1.00
						Depth to cemented pan	0.96
						Seepage	0.50
30:							
Detrital	50	Not limited		Not limited		Very limited	
						Gravel content	1.00
						Seepage	0.50

Table 9.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
30:							
Skelon family-------	30	Not limited		Not limited		Very limited	
						Depth to cemented pan	1.00
						Gravel content	1.00
						Seepage	0.50
31:							
Dusty---------------	70	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Carbonate content	1.00
						Ponding	1.00
Kurstan family------	15	Not limited		Not limited		Somewhat limited	
						Seepage	0.50
32:							
Dutchflat-----------	80	Not limited		Not limited		Not limited	
33:							
Dye-----------------	50	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Too clayey	1.00	Slope	1.00	Too clayey	1.00
		Slope	1.00			Hard to compact	1.00
						Slope	1.00
Tovar---------------	20	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Too clayey	1.00	Slope	1.00	Too clayey	1.00
		Slope	1.00			Hard to compact	1.00
						Slope	1.00
Rock outcrop--------	15	Not rated		Not rated		Not rated	
34:							
Faraway-------------	70	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
						Gravel content	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	

Table 9.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
35:							
Fig	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00			Slope	1.00
						Gravel content	0.99
						Seepage	0.50
Blind	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Content of large stones	0.10			Gravel content	0.10
						Content of large stones	0.10
Nodman	15	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00			Slope	1.00
						Gravel content	1.00
						Seepage	0.50
36:							
Filaree	80	Not limited		Not limited		Somewhat limited	
						Seepage	0.50
						Gravel content	0.46
37:							
Filaree	60	Not limited		Not limited		Somewhat limited	
						Seepage	0.50
						Gravel content	0.46
Dutchflat	30	Somewhat limited		Not limited		Very limited	
		Too Sandy	0.50			Seepage	1.00
						Gravel content	0.85
						Too Sandy	0.50

Table 9.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
38:							
Garnet	50	Very limited		Not limited		Very limited	
		Too Sandy	1.00			Too Sandy	1.00
						Seepage	1.00
						Gravel content	1.00
Dutchflat	40	Somewhat limited		Not limited		Very limited	
		Too Sandy	0.50			Seepage	1.00
						Gravel content	0.85
						Too Sandy	0.50
39:							
Goesling family	75	Not limited		Not limited		Not limited	
40:							
Goldroad	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00			Slope	1.00
						Gravel content	1.00
						Seepage	0.50
Rock outcrop	10	Not rated		Not rated		Not rated	
41:							
Goldroad	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00			Slope	1.00
		Content of large stones	0.03			Gravel content	0.91
						Seepage	0.50
						Content of large stones	0.03
Rock outcrop	20	Not rated		Not rated		Not rated	

Table 9.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
42:							
Gonzales	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00			Slope	1.00
						Hard to compact	1.00
Rock outcrop	25	Not rated		Not rated		Not rated	
43:							
Goodsprings family	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to cemented pan	1.00
						Slope	1.00
						Gravel content	0.52
44:							
Gotchell	50	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Depth to cemented pan	1.00
		Slope	1.00			Depth to bedrock	1.00
						Gravel content	1.00
						Slope	1.00
						Seepage	0.50
Sunstroke	30	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Depth to cemented pan	1.00
		Slope	1.00			Gravel content	1.00
						Slope	1.00
						Depth to bedrock	0.84
						Seepage	0.50
45:							
Graham	60	Very limited		Somewhat limited		Very limited	
		Depth to bedrock	1.00	Slope	0.04	Depth to bedrock	1.00
		Slope	0.04			Hard to compact	1.00
						Slope	0.04

Table 9.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
45:							
Arivaca	25	Very limited		Somewhat limited		Very limited	
		Depth to bedrock	1.00	Slope	0.04	Depth to bedrock	1.00
		Slope	0.04			Hard to compact	1.00
						Slope	0.04
46:							
Graham	60	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Depth to bedrock	1.00
		Slope	1.00			Hard to compact	1.00
						Slope	1.00
Rock outcrop	20	Not rated		Not rated		Not rated	
47:							
Grandwash	85	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Content of large stones	1.00	Slope	0.96	Too clayey	1.00
		Too clayey	1.00			Hard to compact	1.00
		Slope	0.96			Content of large stones	1.00
						Slope	0.96
48:							
Greyeagle family	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to cemented pan	1.00
		Content of large stones	1.00			Slope	1.00
						Content of large stones	1.00
						Seepage	0.50
49:							
Greyeagle family	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to cemented pan	1.00
						Slope	1.00
						Gravel content	1.00
						Seepage	0.50

Table 9.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
50:							
Greyeagle family----	70	Not limited		Not limited		Very limited	
						Depth to cemented pan	1.00
						Gravel content	1.00
						Seepage	0.50
Cyclopic----------	20	Somewhat limited		Not limited		Very limited	
		Content of large stones	0.05			Depth to cemented pan	1.00
						Hard to compact	1.00
						Gravel content	0.88
						Content of large stones	0.05
51:							
Greyeagle family----	70	Not limited		Not limited		Very limited	
						Depth to cemented pan	1.00
						Gravel content	1.00
						Seepage	0.50
Skelon family-------	20	Not limited		Not limited		Very limited	
						Depth to cemented pan	1.00
						Gravel content	1.00
						Seepage	0.50
52:							
Greyeagle family----	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to cemented pan	1.00
						Gravel content	1.00
						Slope	1.00
						Seepage	0.50

Table 9.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
52:							
Skelon family-------	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to cemented pan	1.00
						Gravel content	1.00
						Slope	1.00
						Seepage	0.50
53:							
Gypsids-------------	90	Not rated		Very limited		Not rated	
				Slope	1.00		
54:							
Haplogypsids, eroded	70	Not rated		Very limited		Not rated	
				Slope	1.00		
Haplogypsids--------	30	Not rated		Very limited		Not rated	
				Slope	1.00		
55:							
Hassell family------	50	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Depth to bedrock	1.00
		Slope	1.00			Hard to compact	1.00
						Slope	1.00
Lampshire-----------	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00			Slope	1.00
						Gravel content	1.00
						Seepage	0.50
Rock outcrop--------	20	Not rated		Not rated		Not rated	

Table 9.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
56:							
Hindu	60	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Depth to bedrock	1.00
		Slope	1.00			Slope	1.00
		Content of large stones	0.04			Gravel content	0.94
						Content of large stones	0.04
Rock outcrop	20	Not rated		Not rated		Not rated	
57:							
Hooks family	45	Not limited		Not limited		Somewhat limited	
						Seepage	0.50
Courtland family	40	Very limited		Not limited		Somewhat limited	
		Depth to bedrock	1.00			Depth to bedrock	0.88
58:							
Hosta family	75	Not limited		Not limited		Not limited	
59:							
House Mountain family	40	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Depth to bedrock	1.00
		Slope	1.00			Slope	1.00
						Gravel content	0.91
						Seepage	0.50
Calvista family	30	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Depth to bedrock	1.00
		Slope	1.00			Gravel content	1.00
						Slope	1.00
						Seepage	0.50
Rock outcrop	20	Not rated		Not rated		Not rated	

Table 9.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
60:							
Huevi	90	Not limited		Not limited		Very limited	
						Gravel content	1.00
						Seepage	0.50
61:							
Huevi	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Seepage	1.00
		Too Sandy	0.50			Gravel content	1.00
						Slope	1.00
						Too Sandy	0.50
62:							
Huevi	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Gravel content	1.00
						Seepage	0.50
63:							
Huevi	65	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.84	Slope	0.84	Seepage	1.00
		Too Sandy	0.50			Gravel content	1.00
						Slope	0.84
						Too Sandy	0.50
Carrizo	15	Somewhat limited		Somewhat limited		Very limited	
		Too Sandy	0.50	Flooding	0.40	Seepage	1.00
		Flooding	0.40			Gravel content	1.00
						Too Sandy	0.50
64:							
Huevi	65	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Gravel content	1.00
						Slope	1.00
						Seepage	0.50
Carrwash	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too Sandy	1.00			Too Sandy	1.00
						Seepage	1.00
						Gravel content	1.00

Table 9.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
65:							
Huevi	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Content of large stones	1.00			Content of large stones	1.00
						Seepage	0.50
Sunrock	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00			Slope	1.00
						Gravel content	1.00
						Seepage	0.50
Rock outcrop	10	Not rated		Not rated		Not rated	
66:							
Hulda	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00			Slope	1.00
						Gravel content	1.00
						Seepage	0.50
67:							
Hulda	70	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00			Slope	1.00
						Gravel content	1.00
						Seepage	0.50
Rock outcrop	20	Not rated		Not rated		Not rated	
68:							
Hulda	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00			Slope	1.00
		Content of large stones	1.00			Content of large stones	1.00
						Seepage	0.50
Rock outcrop	35	Not rated		Not rated		Not rated	

Table 9.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
69:							
Ireteba family------	45	Somewhat limited		Somewhat limited		Very limited	
		Too Sandy	0.50	Flooding	0.40	Seepage	1.00
		Flooding	0.40			Gravel content	0.80
						Too Sandy	0.50
Arizo---------------	30	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Seepage	1.00
		Too Sandy	0.50			Gravel content	1.00
						Too Sandy	0.50
70:							
Jagerson------------	85	Not limited		Not limited		Very limited	
						Gravel content	1.00
						Seepage	0.50
71:							
Jagerson------------	45	Not limited		Not limited		Somewhat limited	
						Gravel content	0.99
						Seepage	0.50
Nealy---------------	40	Somewhat limited		Not limited		Very limited	
		Depth to thin cemented pan	0.50			Depth to cemented pan	1.00
						Gravel content	0.46
72:							
Kingtut-------------	45	Very limited		Not limited		Very limited	
		Depth to bedrock	1.00			Depth to cemented pan	1.00
						Depth to bedrock	1.00
						Gravel content	0.58

Table 9.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
72:							
Promontory	35	Very limited		Not limited		Very limited	
		Depth to bedrock	1.00			Depth to cemented pan	1.00
						Depth to bedrock	1.00
						Gravel content	0.72
73:							
Kinley	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Gravel content	0.62
						Seepage	0.50
74:							
Kurstan family	60	Not limited		Not limited		Somewhat limited	
						Seepage	0.50
Dusty	30	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Carbonate content	1.00
						Ponding	1.00
75:							
Lampshire	65	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00			Slope	1.00
						Gravel content	1.00
						Seepage	0.50
Rock outcrop	20	Not rated		Not rated		Not rated	
76:							
Lostman	80	Not limited		Not limited		Somewhat limited	
						Gravel content	0.86
						Seepage	0.50
77:							
Lostman	80	Not limited		Not limited		Somewhat limited	
						Seepage	0.50
						Gravel content	0.27

Table 9.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
78:							
Luzena	45	Very limited		Somewhat limited		Very limited	
		Depth to bedrock	1.00	Slope	0.63	Depth to bedrock	1.00
		Slope	0.63			Hard to compact	1.00
						Slope	0.63
Thunderbird	30	Very limited		Somewhat limited		Very limited	
		Depth to bedrock	1.00	Slope	0.63	Depth to bedrock	1.00
		Slope	0.63			Slope	0.63
79:							
Lykorly	85	Not limited		Not limited		Very limited	
						Hard to compact	1.00
80:							
Lykorly	75	Not limited		Not limited		Not limited	
81:							
Manikan	60	Not limited		Not limited		Somewhat limited	
						Seepage	0.50
Nuffel	25	Not limited		Not limited		Not limited	
82:							
Mathis family	55	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Too Sandy	1.00
		Content of large stones	1.00			Seepage	1.00
		Too Sandy	1.00			Content of large stones	1.00
Riverwash	35	Not rated		Not rated		Not rated	

Table 9.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
83:							
Mayswell	75	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Depth to bedrock	1.00
		Slope	1.00			Hard to compact	1.00
		Content of large stones	0.23			Slope	1.00
						Content of large stones	0.23
Rock outcrop	15	Not rated		Not rated		Not rated	
84:							
Meadview	80	Very limited		Very limited		Very limited	
		Too Sandy	1.00	Slope	1.00	Too Sandy	1.00
		Slope	1.00			Seepage	1.00
		Content of large stones	0.99			Slope	1.00
						Content of large stones	0.99
						Gravel content	0.28
85:							
Meadview	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too Sandy	1.00			Seepage	1.00
		Content of large stones	0.08			Too Sandy	1.00
						Gravel content	0.90
						Content of large stones	0.08
Yurm family	30	Not limited		Not limited		Very limited	
						Depth to cemented pan	1.00
						Gravel content	1.00
						Seepage	0.50

Table 9.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
86:							
Meriwhitica	65	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Depth to bedrock	1.00
		Slope	1.00			Gravel content	1.00
						Slope	1.00
						Seepage	0.50
Rock outcrop	15	Not rated		Not rated		Not rated	
87:							
Mextank	80	Not limited		Not limited		Very limited	
						Gravel content	1.00
						Seepage	0.50
88:							
Milkweed	50	Somewhat limited		Very limited		Very limited	
		Slope	0.37	Depth to cemented pan	1.00	Depth to cemented pan	1.00
				Slope	0.37	Gravel content	1.00
						Slope	0.37
Quartermaster	30	Not limited		Not limited		Very limited	
						Depth to cemented pan	1.00
Buckndoe	15	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.37	Slope	0.37	Seepage	0.50
						Depth to cemented pan	0.46
						Slope	0.37
						Gravel content	0.05
89:							
Milok	55	Not limited		Not limited		Somewhat limited	
						Seepage	0.50
						Gravel content	0.02

Table 9.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
89:							
Pastern	35	Not limited		Not limited		Very limited	
						Depth to cemented pan	1.00
						Gravel content	0.50
90:							
Mutang	45	Very limited		Not limited		Very limited	
		Depth to bedrock	1.00			Depth to bedrock	1.00
						Hard to compact	1.00
Dutchflat	40	Not limited		Not limited		Not limited	
91:							
Mutang	55	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Depth to bedrock	1.00
		Slope	1.00			Hard to compact	1.00
						Slope	1.00
Wikieup	25	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Depth to bedrock	1.00
		Slope	1.00			Gravel content	1.00
						Slope	1.00
						Seepage	0.50
Rock outcrop	15	Not rated		Not rated		Not rated	
92:							
Nealy	60	Not limited		Not limited		Very limited	
						Depth to cemented pan	1.00
Shamock family	30	Not limited		Not limited		Very limited	
						Depth to cemented pan	1.00
						Seepage	0.50

Table 9.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
93:							
Nealy	40	Somewhat limited		Not limited		Very limited	
		Depth to thin cemented pan	0.50			Depth to cemented pan	1.00
						Gravel content	0.46
Skelon family	30	Not limited		Not limited		Very limited	
						Depth to cemented pan	1.00
						Gravel content	1.00
						Seepage	0.50
Detrital	25	Not limited		Not limited		Very limited	
						Gravel content	1.00
						Seepage	0.50
94:							
Nickel family	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Gravel content	1.00
						Seepage	0.50
Bluebird	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Gravel content	1.00
						Seepage	0.50
95:							
Nickel	45	Not limited		Not limited		Very limited	
						Gravel content	1.00
						Seepage	0.50
Skelon family	25	Not limited		Not limited		Very limited	
						Depth to cemented pan	1.00
						Gravel content	1.00
						Seepage	0.50

Table 9.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
95:							
Detrital	15	Not limited		Not limited		Very limited	
						Gravel content	1.00
						Seepage	0.50
96:							
Nickel family	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Gravel content	1.00
						Seepage	0.50
Topawa family	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Gravel content	1.00
						Seepage	0.50
Eba family	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Gravel content	1.00
						Slope	1.00
97:							
Nodman	40	Very limited		Not limited		Very limited	
		Depth to bedrock	1.00			Depth to bedrock	1.00
						Gravel content	1.00
Antares	35	Very limited		Not limited		Very limited	
		Depth to bedrock	1.00			Depth to bedrock	1.00
						Gravel content	1.00
98:							
Nodman	60	Very limited		Somewhat limited		Very limited	
		Depth to bedrock	1.00	Slope	0.04	Depth to bedrock	1.00
		Slope	0.04			Gravel content	0.37
						Slope	0.04
Courtland family	25	Very limited		Somewhat limited		Very limited	
		Depth to bedrock	1.00	Slope	0.04	Depth to bedrock	1.00
		Slope	0.04			Slope	0.04

Table 9.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
99:							
Nodman	65	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00			Slope	1.00
						Gravel content	1.00
						Seepage	0.50
Rock outcrop	20	Not rated		Not rated		Not rated	
100:							
Nodman	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00			Slope	1.00
		Content of large stones	0.55			Content of large stones	0.55
						Gravel content	0.46
Romero family	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00			Slope	1.00
		Content of large stones	0.75			Content of large stones	0.75
						Gravel content	0.56
						Seepage	0.50
101:							
Nolam family	35	Not limited		Not limited		Somewhat limited	
						Gravel content	0.45
Ustalfic Petrocalcids	30	Not rated		Not limited		Not rated	
Caralampi family	25	Not limited		Not limited		Very limited	
						Gravel content	1.00
						Seepage	0.50

Table 9.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
102:							
Ohaco family--------	50	Not limited		Not limited		Very limited	
						Depth to cemented pan	1.00
						Gravel content	0.50
						Seepage	0.50
Bluebird------------	40	Not limited		Not limited		Very limited	
						Gravel content	1.00
						Seepage	0.50
103:							
Orejano-------------	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Seepage	1.00
		Too Sandy	0.50			Gravel content	1.00
						Slope	1.00
						Too Sandy	0.50
104:							
Pantak family-------	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00			Slope	1.00
		Content of large stones	1.00			Content of large stones	1.00
Taine---------------	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00			Slope	1.00
		Content of large stones	1.00			Hard to compact	1.00
						Content of large stones	1.00

Table 9.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
104:							
Terino family-------	15	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to cemented pan	1.00
		Depth to bedrock	1.00			Depth to bedrock	1.00
		Content of large stones	0.68			Slope	1.00
						Content of large stones	0.68
						Gravel content	0.61
105:							
Pastern----------	50	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Depth to cemented pan	1.00
						Slope	0.63
						Gravel content	0.50
Strych----------	40	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Gravel content	1.00
						Slope	0.63
						Seepage	0.50
106:							
Peachsprings--------	75	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.04	Slope	0.04	Seepage	0.50
						Slope	0.04
Havasupai----------	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to cemented pan	1.00
		Depth to thin cemented pan	0.50			Gravel content	1.00
						Slope	1.00
						Seepage	0.50

Table 9.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
107:							
Pearce	80	Very limited		Somewhat limited		Very limited	
		Depth to bedrock	1.00	Slope	0.04	Depth to bedrock	1.00
		Content of large stones	1.00			Content of large stones	1.00
		Slope	0.04			Slope	0.04
108:							
Pearce	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00			Slope	1.00
						Gravel content	1.00
						Seepage	0.50
Detrital	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Content of large stones	1.00			Content of large stones	1.00
						Seepage	0.50
Rock outcrop	10	Not rated		Not rated		Not rated	
109:							
Pearce	70	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Depth to bedrock	1.00
		Slope	1.00			Gravel content	1.00
						Slope	1.00
Rock outcrop	15	Not rated		Not rated		Not rated	
110:							
Pedregosa family	50	Not limited		Not limited		Very limited	
						Depth to cemented pan	1.00
						Gravel content	0.52
Tombstone family	40	Not limited		Not limited		Very limited	
						Carbonate content	1.00
						Gravel content	0.96
						Depth to cemented pan	0.42

Table 9.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
111:							
Pidineen family-----	65	Not limited		Very limited		Very limited	
				Depth to cemented pan	1.00	Depth to cemented pan	1.00
						Gravel content	0.99
						Seepage	0.50
Tricon family-------	15	Very limited		Very limited		Very limited	
		Too clayey	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
						Too clayey	1.00
						Hard to compact	1.00
112:							
Pits-dumps, mine----	100	Not rated		Not rated		Not rated	
113:							
Playa---------------	100	Not rated		Not rated		Not rated	
114:							
Prieta--------------	75	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Depth to bedrock	1.00
		Slope	1.00			Hard to compact	1.00
		Content of large stones	0.98			Slope	1.00
						Content of large stones	0.98
Rock outcrop--------	15	Not rated		Not rated		Not rated	
115:							
Quagwa--------------	85	Somewhat limited		Somewhat limited		Not limited	
		Flooding	0.40	Flooding	0.40		
116:							
Razorback-----------	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00			Slope	1.00
						Gravel content	1.00
						Seepage	0.50

Table 9.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
117:							
Razorback	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00			Slope	1.00
						Gravel content	1.00
Rock outcrop	20	Not rated		Not rated		Not rated	
118:							
Razorback	65	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00			Slope	1.00
						Gravel content	1.00
Rock outcrop	30	Not rated		Not rated		Not rated	
120:							
Rift	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Ponding	1.00
		Ponding	1.00	Ponding	1.00		
121:							
Rillino family	50	Not limited		Not limited		Somewhat limited	
						Gravel content	0.70
						Seepage	0.50
Shamock family	25	Not limited		Not limited		Very limited	
						Depth to cemented pan	1.00
						Seepage	0.50
Dutchflat	20	Not limited		Not limited		Not limited	
122:							
Rock outcrop	50	Not rated		Not rated		Not rated	

Table 9.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
122:							
Appleseed	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00			Slope	1.00
		Content of large stones	1.00			Content of large stones	1.00
						Seepage	0.50
123:							
Rock outcrop	55	Not rated		Not rated		Not rated	
Pearce	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00			Slope	1.00
		Content of large stones	0.68			Content of large stones	0.68
124:							
Rock outcrop	65	Not rated		Not rated		Not rated	
Razorback	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00			Slope	1.00
						Gravel content	1.00
125:							
Rock outcrop	50	Not rated		Not rated		Not rated	
Torriorthents	40	Not rated		Very limited		Not rated	
				Slope	1.00		
126:							
Rock outcrop	50	Not rated		Not rated		Not rated	
Torriorthents	40	Not rated		Very limited		Not rated	
				Slope	1.00		

Table 9.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
127:							
Rock outcrop--------	50	Not rated		Not rated		Not rated	
Valena--------------	25	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
Kopie family--------	20	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
						Seepage	0.50
						Gravel content	0.50
128:							
Rolie---------------	60	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Depth to cemented pan	1.00
						Slope	0.37
Dean----------------	25	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Carbonate content	1.00
						Gravel content	0.72
						Slope	0.37
129:							
Romero--------------	45	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Depth to bedrock	1.00
		Slope	1.00			Gravel content	1.00
						Slope	1.00
						Seepage	0.50
Chiricahua----------	30	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Depth to bedrock	1.00
		Slope	1.00			Hard to compact	1.00
						Slope	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	

Table 9.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
130:							
Romero	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00			Slope	1.00
						Gravel content	1.00
						Seepage	0.50
Lampshire	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00			Slope	1.00
						Gravel content	1.00
						Seepage	0.50
Rock outcrop	15	Not rated		Not rated		Not rated	
131:							
Rositas	80	Very limited		Very limited		Very limited	
		Too Sandy	1.00	Slope	1.00	Too Sandy	1.00
		Slope	1.00	Flooding	0.20	Seepage	1.00
		Flooding	0.20			Slope	1.00
132:							
Shortbread	85	Somewhat limited		Not limited		Very limited	
		Too Sandy	0.50			Seepage	1.00
						Too Sandy	0.50
133:							
Shortbread	40	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Seepage	1.00
		Too Sandy	0.50			Ponding	1.00
						Too Sandy	0.50
Kurstan family	30	Not limited		Not limited		Somewhat limited	
						Seepage	0.50
Dusty	20	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00

Table 9.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
134:							
Skelon family-------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to cemented pan	1.00
						Gravel content	1.00
						Slope	1.00
						Seepage	0.50
Greyeagle family----	30	Not limited		Not limited		Very limited	
						Depth to cemented pan	1.00
						Gravel content	1.00
						Seepage	0.50
Detrital----------	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Gravel content	1.00
						Slope	1.00
						Seepage	0.50
135:							
Skelon family-------	60	Not limited		Not limited		Very limited	
						Depth to cemented pan	1.00
						Gravel content	1.00
						Seepage	0.50
Pinaleno family-----	30	Not limited		Not limited		Very limited	
						Gravel content	1.00
						Seepage	0.50
136:							
Storybook----------	80	Not limited		Not limited		Very limited	
						Gravel content	1.00
137:							
Stronghold family---	45	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.04	Slope	0.04	Seepage	0.50
						Slope	0.04

Table 9.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
137:							
McAllister family---	35	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Gravel content	1.00
						Seepage	0.31
						Slope	0.04
138:							
Sunrock----------	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00			Slope	1.00
						Gravel content	1.00
						Seepage	0.50
139:							
Sunrock----------	70	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00			Slope	1.00
		Content of large stones	0.40			Gravel content	0.99
						Seepage	0.50
						Content of large stones	0.40
Rock outcrop--------	20	Not rated		Not rated		Not rated	
140:							
Superstition family-	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too Sandy	1.00			Too Sandy	1.00
						Seepage	1.00
Carrwash----------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too Sandy	1.00			Too Sandy	1.00
						Seepage	1.00
						Gravel content	1.00

Table 9.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
141:							
Taine	90	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Depth to bedrock	1.00
		Content of large stones	1.00			Hard to compact	1.00
		Slope	1.00			Content of large stones	1.00
						Slope	1.00
142:							
Thimble	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
		Content of large stones	1.00			Content of large stones	1.00
						Gravel content	0.01
Rock outcrop	10	Not rated		Not rated		Not rated	
143:							
Tombstone family	50	Somewhat limited		Somewhat limited		Somewhat limited	
		Content of large stones	0.41	Slope	0.16	Seepage	0.50
		Slope	0.16			Content of large stones	0.41
						Slope	0.16
						Gravel content	0.07
Caralampi family	20	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.16	Slope	0.16	Gravel content	0.77
		Content of large stones	0.01			Seepage	0.50
						Slope	0.16
						Content of large stones	0.01
Nolam family	20	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.16	Slope	0.16	Gravel content	1.00
						Seepage	0.50
						Slope	0.16

Table 9.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
144:							
Torriorthents	80	Not rated		Very limited		Not rated	
				Slope	1.00		
145:							
Torriorthents	50	Not rated		Not limited		Not rated	
Haplocambids	35	Not rated		Not limited		Not rated	
146:							
Torriorthents	70	Not rated		Very limited		Not rated	
				Slope	1.00		
Rock outcrop	15	Not rated		Not rated		Not rated	
147:							
Tovar	50	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Too clayey	1.00	Slope	1.00	Too clayey	1.00
		Slope	1.00			Hard to compact	1.00
						Slope	1.00
Grandwash	40	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Too clayey	1.00	Slope	1.00	Too clayey	1.00
		Content of large stones	1.00			Content of large stones	1.00
		Slope	1.00			Slope	1.00
148:							
Truxton	75	Somewhat limited		Somewhat limited		Not limited	
		Flooding	0.40	Flooding	0.40		
Truxton, frequently flooded	15	Very limited		Very limited		Not limited	
		Flooding	1.00	Flooding	1.00		

Table 9.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
149:							
Tumarion	85	Very limited		Somewhat limited		Very limited	
		Depth to bedrock	1.00	Slope	0.04	Depth to cemented pan	1.00
		Slope	0.04			Depth to bedrock	1.00
						Gravel content	1.00
						Slope	0.04
150:							
Tumarion	70	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Depth to cemented pan	1.00
		Slope	1.00			Depth to bedrock	1.00
		Content of large stones	0.84			Slope	1.00
						Content of large stones	0.84
						Seepage	0.50
Nickel family	15	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Content of large stones	0.71			Content of large stones	0.71
						Seepage	0.50
						Gravel content	0.02
151:							
Tumarion	75	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Depth to cemented pan	1.00
		Slope	1.00			Depth to bedrock	1.00
						Slope	1.00
						Gravel content	0.99
						Seepage	0.50

Table 9.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
151:							
Nickel family-------	15	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Content of large stones	0.74			Content of large stones	0.74
						Seepage	0.50
						Gravel content	0.02
152:							
Tyro----------------	90	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Depth to cemented pan	1.00
		Slope	1.00			Depth to bedrock	1.00
						Gravel content	1.00
						Slope	1.00
						Seepage	0.50
153:							
Tyro----------------	90	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Depth to cemented pan	1.00
		Slope	1.00			Depth to bedrock	1.00
						Gravel content	1.00
						Slope	1.00
						Seepage	0.50
154:							
Tyro----------------	55	Not limited		Not limited		Very limited	
						Depth to cemented pan	1.00
						Gravel content	1.00
						Seepage	0.50
Sunrock-------------	35	Very limited		Not limited		Very limited	
		Depth to bedrock	1.00			Depth to bedrock	1.00
						Gravel content	1.00
						Seepage	0.50

Table 9.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
155:							
Urban land----------	60	Not rated		Not rated		Not rated	
Calvista family-----	25	Very limited		Not limited		Very limited	
		Depth to bedrock	1.00			Depth to bedrock	1.00
						Gravel content	1.00
						Seepage	0.50
156:							
Ustorthents---------	60	Not rated		Very limited		Not rated	
				Slope	1.00		
				Depth to bedrock	1.00		
Rock outcrop--------	30	Not rated		Not rated		Not rated	
157:							
Valena--------------	70	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
Carri---------------	20	Very limited		Not limited		Very limited	
		Depth to bedrock	1.00			Depth to bedrock	1.00
158:							
Valena--------------	40	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	0.84	Slope	0.84	Slope	0.84
Rock outcrop--------	20	Not rated		Not rated		Not rated	
Carri family--------	15	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.84	Slope	0.84	Slope	0.84
159:							
Vekol family--------	85	Very limited		Not limited		Very limited	
		Too Sandy	1.00			Too Sandy	1.00
						Seepage	1.00
						Gravel content	0.94

Table 9.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
160:							
Vekol family--------	80	Not limited		Not limited		Very limited	
						Hard to compact	1.00
161:							
Vekol family--------	50	Not limited		Not limited		Very limited	
						Hard to compact	1.00
						Gravel content	0.01
Whitehills----------	35	Not limited		Not limited		Very limited	
						Depth to cemented pan	1.00
						Gravel content	1.00
162:							
Vock----------------	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00			Slope	1.00
						Gravel content	0.51
						Seepage	0.50
Elements------------	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Content of large stones	0.42			Gravel content	0.61
						Content of large stones	0.42
Rock outcrop--------	10	Not rated		Not rated		Not rated	
163:							
Vock----------------	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00			Slope	1.00
		Content of large stones	0.29			Seepage	0.50
						Content of large stones	0.29
						Gravel content	0.03

Table 9.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
163:							
Elements	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Content of large stones	0.42			Gravel content	0.61
						Content of large stones	0.42
Rock outcrop	10	Not rated		Not rated		Not rated	
164:							
Water	100	Not rated		Not rated		Not rated	
165:							
White House	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.04	Slope	0.04	Slope	0.04
						Gravel content	0.03
166:							
White House family	85	Somewhat limited		Somewhat limited		Very limited	
		Too Sandy	0.50	Slope	0.04	Seepage	1.00
		Slope	0.04			Too Sandy	0.50
						Gravel content	0.43
						Slope	0.04
167:							
Whitehills	80	Not limited		Not limited		Very limited	
						Depth to cemented pan	1.00
						Gravel content	1.00
168:							
Wodomont	50	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Content of large stones	0.47			Gravel content	0.96
						Seepage	0.50
						Content of large stones	0.47

Table 9.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
168:							
Kydestea	25	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Depth to bedrock	1.00
		Content of large stones	1.00			Content of large stones	1.00
		Slope	1.00			Slope	1.00
169:							
Wodomont	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
		Content of large stones	0.47			Gravel content	0.96
						Seepage	0.50
						Content of large stones	0.47
Metuck	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00			Slope	1.00
		Content of large stones	0.14			Seepage	0.50
						Gravel content	0.42
						Content of large stones	0.14
Rock outcrop	15	Not rated		Not rated		Not rated	
170:							
Wodomont	70	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
						Gravel content	0.32
Rock outcrop	20	Not rated		Not rated		Not rated	
171:							
Yahana family	85	Very limited		Not limited		Not limited	
		Salinity	1.00				

Table 9.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
172:							
Zibate family-------	75	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Depth to bedrock	1.00
		Slope	1.00			Gravel content	1.00
						Slope	1.00
173:							
Zibate family-------	80	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Depth to bedrock	1.00
		Content of large stones	1.00			Content of large stones	1.00
		Slope	1.00			Slope	1.00
174:							
Zibate family-------	45	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Depth to bedrock	1.00
		Slope	1.00			Slope	1.00
		Content of large stones	0.62			Hard to compact	1.00
						Content of large stones	0.62
						Seepage	0.50
Dutchflat-----------	25	Somewhat limited		Not limited		Very limited	
		Too Sandy	0.50			Seepage	1.00
						Gravel content	0.85
						Too Sandy	0.50
Tumarion------------	15	Very limited		Somewhat limited		Very limited	
		Depth to bedrock	1.00	Slope	0.63	Depth to cemented pan	1.00
		Content of large stones	0.79			Depth to bedrock	1.00
		Slope	0.63			Content of large stones	0.79
						Slope	0.63
						Seepage	0.50

Table 10.--Source of Gravel and Sand

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The ratings given for the thickest layer are for the thickest layer above and excluding the bottom layer. The numbers in the value columns range from 0.00 to 0.99. The greater the value, the greater the likelihood that the bottom layer or thickest layer of the soil is a source of sand or gravel. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
1:					
Alko family	85	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.62	Bottom layer	0.34
2:					
Alko family	85	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.62	Bottom layer	0.34
3:					
Appleseed	45	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Huevi	40	Fair		Fair	
		Bottom layer	0.12	Bottom layer	0.00
		Thickest layer	0.18	Thickest layer	0.04
4:					
Aridic Argiustolls	60	Not rated		Not rated	
Lithic Haplustolls	30	Not rated		Not rated	
5:					
Arizo	40	Fair		Fair	
		Bottom layer	0.50	Bottom layer	0.21
		Thickest layer	0.62	Thickest layer	0.70
Detrital	30	Fair		Fair	
		Bottom layer	0.12	Bottom layer	0.03
		Thickest layer	0.62	Thickest layer	0.04
Nickel	20	Fair		Fair	
		Thickest layer	0.18	Thickest layer	0.03
		Bottom layer	0.62	Bottom layer	0.03
6:					
Arizo	40	Fair		Fair	
		Bottom layer	0.19	Thickest layer	0.10
		Thickest layer	0.47	Bottom layer	0.12
Franconia	30	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.10
		Thickest layer	0.00	Thickest layer	0.10

Table 10.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
6:					
Riverwash	20	Not rated		Not rated	
7:					
Arizo	55	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.12
		Bottom layer	0.62	Bottom layer	0.21
Riverwash	35	Not rated		Not rated	
8:					
Arizo	50	Fair		Fair	
		Bottom layer	0.50	Bottom layer	0.21
		Thickest layer	0.62	Thickest layer	0.70
Riverwash	25	Not rated		Not rated	
9:					
Arizo	60	Fair		Fair	
		Thickest layer	0.00	Bottom layer	0.06
		Bottom layer	0.06	Thickest layer	0.06
Riverwash	30	Not rated		Not rated	
10:					
Arizo	55	Fair		Fair	
		Thickest layer	0.06	Thickest layer	0.06
		Bottom layer	0.06	Bottom layer	0.06
Riverwash	35	Not rated		Not rated	
11:					
Azure	45	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.18	Bottom layer	0.03
Detrital	30	Fair		Fair	
		Bottom layer	0.12	Bottom layer	0.04
		Thickest layer	0.12	Thickest layer	0.04
Antares	20	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.12	Bottom layer	0.03
12:					
Birdsbeak	90	Fair		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.18	Bottom layer	0.00

Table 10.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
13:					
Bluebird	50	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.25	Bottom layer	0.07
Detrital	40	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.04
		Bottom layer	0.12	Bottom layer	0.04
14:					
Bluebird	70	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
Lostman	25	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
15:					
Carrizo	75	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.03
		Bottom layer	0.62	Bottom layer	0.07
Carrizo, rarely flooded	20	Fair		Fair	
		Thickest layer	0.50	Thickest layer	0.03
		Bottom layer	0.62	Bottom layer	0.07
16:					
Carrizo	75	Fair		Fair	
		Thickest layer	0.00	Bottom layer	0.07
		Bottom layer	0.62	Thickest layer	0.11
Riverwash	15	Not rated		Not rated	
17:					
Carrizo	75	Fair		Fair	
		Thickest layer	0.62	Thickest layer	0.07
		Bottom layer	0.62	Bottom layer	0.79
Riverwash	15	Not rated		Not rated	
18:					
Chuckawalla	65	Fair		Fair	
		Thickest layer	0.19	Thickest layer	0.00
		Bottom layer	0.19	Bottom layer	0.10
Riverbend	25	Fair		Fair	
		Bottom layer	0.06	Thickest layer	0.10
		Thickest layer	0.19	Bottom layer	0.82

Table 10.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
19:					
Circular	45	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
Circular	40	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.04
		Thickest layer	0.00	Bottom layer	0.10
20:					
Circular	50	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.04
		Bottom layer	0.00	Bottom layer	0.07
Dusty	30	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
21:					
Cod	90	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.02
		Bottom layer	0.18	Bottom layer	0.03
22:					
Cordes	45	Fair		Fair	
		Thickest layer	0.00	Bottom layer	0.02
		Bottom layer	0.12	Thickest layer	0.02
Manikan	25	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
Riverwash	10	Not rated		Not rated	
23:					
Cupel	60	Fair		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.14	Bottom layer	0.00
Rock outcrop	20	Not rated		Not rated	
24:					
Cyclopic	80	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
25:					
Deluge	50	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00

Table 10.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
25:					
Gotchell	17	Fair		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.01	Thickest layer	0.01
Sunstroke	13	Fair		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.16	Thickest layer	0.02
26:					
Detrital	45	Fair		Fair	
		Bottom layer	0.12	Bottom layer	0.04
		Thickest layer	0.12	Thickest layer	0.04
Bluebird	35	Fair		Fair	
		Bottom layer	0.12	Bottom layer	0.00
		Thickest layer	0.51	Thickest layer	0.06
27:					
Detrital	55	Fair		Fair	
		Thickest layer	0.56	Bottom layer	0.05
		Bottom layer	0.56	Thickest layer	0.05
Nealy	35	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.62	Bottom layer	0.64
28:					
Detrital	60	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.04
		Bottom layer	0.12	Bottom layer	0.04
Nickel	35	Fair		Fair	
		Thickest layer	0.19	Bottom layer	0.10
		Bottom layer	0.69	Thickest layer	0.11
29:					
Detrital	60	Fair		Fair	
		Thickest layer	0.12	Thickest layer	0.04
		Bottom layer	0.62	Bottom layer	0.04
Nickel family	25	Fair		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.18	Thickest layer	0.04
30:					
Detrital	50	Fair		Fair	
		Thickest layer	0.12	Thickest layer	0.04
		Bottom layer	0.12	Bottom layer	0.04
Skelon family	30	Fair		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.19	Thickest layer	0.03

Table 10.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
31:					
Dusty	70	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.03
Kurstan family	15	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.04
		Bottom layer	0.55	Bottom layer	0.79
32:					
Dutchflat	80	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.05
33:					
Dye	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Tovar	20	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
Rock outcrop	15	Not rated		Not rated	
34:					
Faraway	70	Poor		Poor	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.00
Rock outcrop	20	Not rated		Not rated	
35:					
Fig	50	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.18	Bottom layer	0.04
Blind	25	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
Nodman	15	Fair		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.18	Bottom layer	0.00
36:					
Filaree	80	Poor		Fair	
		Thickest layer	0.00	Bottom layer	0.03
		Bottom layer	0.00	Thickest layer	0.04

Table 10.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
37:					
Filaree	60	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.02
		Bottom layer	0.00	Bottom layer	0.02
Dutchflat	30	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.25	Bottom layer	0.08
38:					
Garnet	50	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.62	Bottom layer	0.79
Dutchflat	40	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.25	Bottom layer	0.08
39:					
Goesling family	75	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
40:					
Goldroad	75	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.12	Bottom layer	0.04
Rock outcrop	10	Not rated		Not rated	
41:					
Goldroad	75	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.18	Bottom layer	0.06
Rock outcrop	20	Not rated		Not rated	
42:					
Gonzales	60	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
Rock outcrop	25	Not rated		Not rated	
43:					
Goodsprings family	75	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.62	Bottom layer	0.10

Table 10.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
44:					
Gotchell	50	Fair		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.01	Thickest layer	0.01
Sunstroke	30	Fair		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.37	Thickest layer	0.02
45:					
Graham	60	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Arivaca	25	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
46:					
Graham	60	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Rock outcrop	20	Not rated		Not rated	
47:					
Grandwash	85	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
48:					
Greyeagle family	80	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
49:					
Greyeagle family	75	Fair		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.01	Thickest layer	0.01
50:					
Greyeagle family	70	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
Cyclopic	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
51:					
Greyeagle family	70	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00

Table 10.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
51:					
Skelon family	20	Fair		Poor	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.04	Bottom layer	0.00
52:					
Greyeagle family	60	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Skelon family	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
53:					
Gypsids	90	Not rated		Not rated	
54:					
Haplogypsids, eroded	70	Not rated		Not rated	
Haplogypsids	30	Not rated		Not rated	
55:					
Hassell family	50	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
Lampshire	25	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.12	Bottom layer	0.02
Rock outcrop	20	Not rated		Not rated	
56:					
Hindu	60	Fair		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.12	Bottom layer	0.00
Rock outcrop	20	Not rated		Not rated	
57:					
Hooks family	45	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Courtland family	40	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.04

Table 10.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
58:					
Hosta family--------	75	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
59:					
House Mountain family----------	40	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.02
Calvista family-----	30	Fair		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.06	Bottom layer	0.00
Rock outcrop--------	20	Not rated		Not rated	
60:					
Huevi---------------	90	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.03
		Bottom layer	0.62	Bottom layer	0.04
61:					
Huevi---------------	85	Fair		Fair	
		Bottom layer	0.19	Thickest layer	0.02
		Thickest layer	0.19	Bottom layer	0.10
62:					
Huevi---------------	80	Fair		Fair	
		Bottom layer	0.50	Thickest layer	0.04
		Thickest layer	0.50	Bottom layer	0.07
63:					
Huevi---------------	65	Fair		Fair	
		Thickest layer	0.18	Thickest layer	0.03
		Bottom layer	0.25	Bottom layer	0.11
Carrizo-------------	15	Fair		Fair	
		Bottom layer	0.62	Bottom layer	0.07
		Thickest layer	0.62	Thickest layer	0.07
64:					
Huevi---------------	65	Fair		Fair	
		Thickest layer	0.61	Thickest layer	0.04
		Bottom layer	0.69	Bottom layer	0.11
Carrwash------------	20	Fair		Fair	
		Thickest layer	0.62	Thickest layer	0.79
		Bottom layer	0.62	Bottom layer	0.79
65:					
Huevi---------------	50	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00

Table 10.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
65:					
Sunrock	30	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.19	Bottom layer	0.04
Rock outcrop	10	Not rated		Not rated	
66:					
Hulda	75	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.18	Bottom layer	0.04
67:					
Hulda	70	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.18	Bottom layer	0.04
Rock outcrop	20	Not rated		Not rated	
68:					
Hulda	50	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Rock outcrop	35	Not rated		Not rated	
69:					
Ireteba family	45	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.02
		Bottom layer	0.19	Bottom layer	0.07
Arizo	30	Fair		Fair	
		Bottom layer	0.19	Thickest layer	0.10
		Thickest layer	0.47	Bottom layer	0.12
70:					
Jagerson	85	Fair		Fair	
		Thickest layer	0.18	Thickest layer	0.04
		Bottom layer	0.55	Bottom layer	0.21
71:					
Jagerson	45	Fair		Fair	
		Thickest layer	0.18	Thickest layer	0.04
		Bottom layer	0.55	Bottom layer	0.21
Nealy	40	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.62	Bottom layer	0.64

Table 10.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
72:					
Kingtut	45	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
Promontory	35	Poor		Poor	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.00
73:					
Kinley	75	Fair		Fair	
		Thickest layer	0.12	Bottom layer	0.02
		Bottom layer	0.12	Thickest layer	0.02
74:					
Kurstan family	60	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.03
		Thickest layer	0.00	Thickest layer	0.03
Dusty	30	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.03
75:					
Lampshire	65	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.02
Rock outcrop	20	Not rated		Not rated	
76:					
Lostman	80	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.02
77:					
Lostman	80	Poor		Fair	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.02
78:					
Luzena	45	Fair		Poor	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.01	Bottom layer	0.00
Thunderbird	30	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
79:					
Lykorly	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 10.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
80:					
Lykorly	75	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
81:					
Manikan	60	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Nuffel	25	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
82:					
Mathis family	55	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Riverwash	35	Not rated		Not rated	
83:					
Mayswell	75	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
Rock outcrop	15	Not rated		Not rated	
84:					
Meadview	80	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
85:					
Meadview	60	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.29	Bottom layer	0.29
Yurm family	30	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.19	Bottom layer	0.03
86:					
Meriwhitica	65	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.12	Bottom layer	0.02
Rock outcrop	15	Not rated		Not rated	

Table 10.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
87:					
Mextank	80	Fair		Fair	
		Thickest layer	0.23	Thickest layer	0.03
		Bottom layer	0.69	Bottom layer	0.03
88:					
Milkweed	50	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
Quartermaster	30	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
Buckndoe	15	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
89:					
Milok	55	Poor		Fair	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.02
Pastern	35	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.04
90:					
Mutang	45	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
Dutchflat	40	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.05
91:					
Mutang	55	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
Wikieup	25	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
Rock outcrop	15	Not rated		Not rated	
92:					
Nealy	60	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 10.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
92:					
Shamock family------	30	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
93:					
Nealy---------------	40	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.62	Bottom layer	0.64
Skelon family-------	30	Fair		Fair	
		Thickest layer	0.19	Thickest layer	0.03
		Bottom layer	0.25	Bottom layer	0.10
Detrital------------	25	Fair		Fair	
		Thickest layer	0.12	Thickest layer	0.04
		Bottom layer	0.12	Bottom layer	0.04
94:					
Nickel family-------	45	Poor		Poor	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.00
Bluebird------------	25	Fair		Fair	
		Bottom layer	0.12	Bottom layer	0.00
		Thickest layer	0.51	Thickest layer	0.06
95:					
Nickel--------------	45	Fair		Fair	
		Thickest layer	0.12	Thickest layer	0.04
		Bottom layer	0.18	Bottom layer	0.07
Skelon family-------	25	Fair		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.30	Thickest layer	0.04
Detrital------------	15	Fair		Fair	
		Thickest layer	0.12	Thickest layer	0.04
		Bottom layer	0.12	Bottom layer	0.04
96:					
Nickel family-------	35	Fair		Fair	
		Thickest layer	0.19	Thickest layer	0.00
		Bottom layer	0.19	Bottom layer	0.04
Topawa family-------	30	Fair		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.19	Thickest layer	0.04
Eba family----------	25	Fair		Poor	
		Thickest layer	0.19	Bottom layer	0.00
		Bottom layer	0.19	Thickest layer	0.00

Table 10.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
97:					
Nodman	40	Fair		Poor	
		Thickest layer	0.04	Thickest layer	0.00
		Bottom layer	0.19	Bottom layer	0.00
Antares	35	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.12	Bottom layer	0.04
98:					
Nodman	60	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Courtland family	25	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
99:					
Nodman	65	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Rock outcrop	20	Not rated		Not rated	
100:					
Nodman	60	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Romero family	20	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
101:					
Nolam family	35	Fair		Poor	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.25	Bottom layer	0.00
Ustalfic Petrocalcids	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Caralampi family	25	Fair		Fair	
		Thickest layer	0.12	Thickest layer	0.00
		Bottom layer	0.25	Bottom layer	0.10
102:					
Ohaco family	50	Fair		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.11	Thickest layer	0.03

Table 10.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
102:					
Bluebird	40	Fair		Fair	
		Bottom layer	0.12	Bottom layer	0.00
		Thickest layer	0.51	Thickest layer	0.06
103:					
Orejano	75	Fair		Fair	
		Bottom layer	0.06	Thickest layer	0.05
		Thickest layer	0.56	Bottom layer	0.10
104:					
Pantak family	45	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Taine	25	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
Terino family	15	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
105:					
Pastern	50	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.04
Strych	40	Fair		Fair	
		Thickest layer	0.18	Thickest layer	0.03
		Bottom layer	0.62	Bottom layer	0.04
106:					
Peachsprings	75	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.04
Havasupai	20	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.75	Bottom layer	0.45
107:					
Pearce	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
108:					
Pearce	50	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.38	Bottom layer	0.03
Detrital	25	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 10.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
108:					
Rock outcrop--------	10	Not rated		Not rated	
109:					
Pearce--------------	70	Fair		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.12	Bottom layer	0.00
Rock outcrop--------	15	Not rated		Not rated	
110:					
Pedregosa family----	50	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.03
Tombstone family----	40	Fair		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.12	Thickest layer	0.03
111:					
Pidineen family-----	65	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.02
Tricon family-------	15	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
112:					
Pits-dumps, mine----	100	Not rated		Not rated	
113:					
Playa---------------	100	Not rated		Not rated	
114:					
Prieta--------------	75	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Rock outcrop--------	15	Not rated		Not rated	
115:					
Quagwa--------------	85	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
116:					
Razorback-----------	90	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.12	Bottom layer	0.02

Table 10.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
117:					
Razorback	60	Fair		Poor	
		Thickest layer	0.04	Bottom layer	0.00
		Bottom layer	0.62	Thickest layer	0.00
Rock outcrop	20	Not rated		Not rated	
118:					
Razorback	65	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.19	Thickest layer	0.00
Rock outcrop	30	Not rated		Not rated	
119:					
Rift	75	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
120:					
Rift	85	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
121:					
Rillino family	50	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.02
		Bottom layer	0.62	Bottom layer	0.04
Shamock family	25	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
Dutchflat	20	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.05
122:					
Rock outcrop	50	Not rated		Not rated	
Appleseed	40	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
123:					
Rock outcrop	55	Not rated		Not rated	
Pearce	30	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00

Table 10.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
124:					
Rock outcrop--------	65	Not rated		Not rated	
Razorback----------	30	Fair		Poor	
		Thickest layer	0.04	Bottom layer	0.00
		Bottom layer	0.62	Thickest layer	0.00
125:					
Rock outcrop--------	50	Not rated		Not rated	
Torriorthents-------	40	Not rated		Not rated	
126:					
Rock outcrop--------	50	Not rated		Not rated	
Torriorthents-------	40	Not rated		Not rated	
127:					
Rock outcrop--------	50	Not rated		Not rated	
Valena--------------	25	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
Kopie family--------	20	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.03
		Thickest layer	0.00	Bottom layer	0.03
128:					
Rolie---------------	60	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
Dean----------------	25	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
129:					
Romero--------------	45	Fair		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.19	Bottom layer	0.00
Chiricahua----------	30	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
Rock outcrop--------	20	Not rated		Not rated	

Table 10.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
130:					
Romero	60	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.19	Thickest layer	0.00
Lampshire	20	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.02
Rock outcrop	15	Not rated		Not rated	
131:					
Rositas	80	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.75
		Thickest layer	0.00	Thickest layer	0.75
132:					
Shortbread	85	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.07
		Bottom layer	0.00	Bottom layer	0.07
133:					
Shortbread	40	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.07
		Thickest layer	0.00	Thickest layer	0.07
Kurstan family	30	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.03
Dusty	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
134:					
Skelon family	35	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.04
		Bottom layer	0.62	Bottom layer	0.04
Greyeagle family	30	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.19	Bottom layer	0.03
Detrital	20	Fair		Fair	
		Bottom layer	0.12	Bottom layer	0.04
		Thickest layer	0.12	Thickest layer	0.04
135:					
Skelon family	60	Fair		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.30	Thickest layer	0.04
Pinaleno family	30	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.19	Bottom layer	0.03

Table 10.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
136:					
Storybook	80	Fair		Fair	
		Bottom layer	0.19	Bottom layer	0.03
		Thickest layer	0.19	Thickest layer	0.03
137:					
Stronghold family	45	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.03
McAllister family	35	Fair		Fair	
		Bottom layer	0.00	Thickest layer	0.04
		Thickest layer	0.16	Bottom layer	0.13
138:					
Sunrock	90	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.19	Bottom layer	0.04
139:					
Sunrock	70	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.25	Bottom layer	0.04
Rock outcrop	20	Not rated		Not rated	
140:					
Superstition family	40	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.11
		Bottom layer	0.00	Bottom layer	0.12
Carrwash	35	Fair		Fair	
		Thickest layer	0.62	Thickest layer	0.07
		Bottom layer	0.62	Bottom layer	0.79
141:					
Taine	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
142:					
Thimble	85	Poor		Poor	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.00
Rock outcrop	10	Not rated		Not rated	
143:					
Tombstone family	50	Poor		Fair	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.04

Table 10.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
143:					
Caralampi family----	20	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.12	Bottom layer	0.03
Nolam family--------	20	Fair		Fair	
		Thickest layer	0.12	Thickest layer	0.00
		Bottom layer	0.62	Bottom layer	0.03
144:					
Torriorthents-------	80	Not rated		Not rated	
145:					
Torriorthents-------	50	Not rated		Not rated	
Haplocambids--------	35	Not rated		Not rated	
146:					
Torriorthents-------	70	Not rated		Not rated	
Rock outcrop--------	15	Not rated		Not rated	
147:					
Tovar---------------	50	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
Grandwash-----------	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
148:					
Truxton-------------	75	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
Truxton, frequently flooded----------	15	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
149:					
Tumarion------------	85	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
150:					
Tumarion------------	70	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00

Table 10.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
150:					
Nickel family-------	15	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.02
151:					
Tumarion----------	75	Fair		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.06	Thickest layer	0.03
Nickel family-------	15	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.02
152:					
Tyro----------	90	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.62	Bottom layer	0.04
153:					
Tyro----------	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
154:					
Tyro----------	55	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Sunrock----------	35	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.38	Bottom layer	0.04
155:					
Urban land----------	60	Not rated		Not rated	
Calvista family-----	25	Fair		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.06	Bottom layer	0.00
156:					
Ustorthents---------	60	Not rated		Not rated	
Rock outcrop--------	30	Not rated		Not rated	
157:					
Valena----------	70	Poor		Poor	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.00

Table 10.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
157:					
Carri	20	Poor		Poor	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.00
158:					
Valena	40	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
Rock outcrop	20	Not rated		Not rated	
Carri family	15	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
159:					
Vekol family	85	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.19	Bottom layer	0.64
160:					
Vekol family	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
161:					
Vekol family	50	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.19	Thickest layer	0.00
Whitehills	35	Fair		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.19	Bottom layer	0.00
162:					
Vock	60	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.18	Bottom layer	0.04
Elements	20	Fair		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.11	Thickest layer	0.00
Rock outcrop	10	Not rated		Not rated	
163:					
Vock	45	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.04

Table 10.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
163:					
Elements	40	Fair		Poor	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.11	Bottom layer	0.00
Rock outcrop	10	Not rated		Not rated	
164:					
Water	100	Not rated		Not rated	
165:					
White House	85	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.10
166:					
White House family	85	Fair		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.12	Bottom layer	0.10
167:					
Whitehills	80	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.19	Thickest layer	0.00
168:					
Wodomont	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Kydestea	25	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
169:					
Wodomont	45	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Metuck	30	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.03
Rock outcrop	15	Not rated		Not rated	
170:					
Wodomont	70	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
Rock outcrop	20	Not rated		Not rated	

Table 10.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
171:					
Yahana family	85	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.28
172:					
Zibate family	75	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.25	Thickest layer	0.00
173:					
Zibate family	80	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
174:					
Zibate family	45	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
Dutchflat	25	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.25	Bottom layer	0.08
Tumarion	15	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 11.--Source of Reclamation Material, Roadfill, and Topsoil

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.00 to 0.99. The smaller the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1:							
Alko family---------	85	Poor		Poor		Poor	
		Too alkaline	0.00	Depth to cemented pan	0.00	Depth to cemented pan	0.00
		Depth to cemented pan	0.00			Rock fragments	0.00
		Droughty	0.00			Slope	0.26
		Carbonate content	0.46			Carbonate content	0.46
		Low content of organic matter	0.88				
2:							
Alko family---------	85	Poor		Poor		Poor	
		Depth to cemented pan	0.00	Depth to cemented pan	0.00	Rock fragments	0.00
		Droughty	0.00			Depth to cemented pan	0.00
		Too alkaline	0.00			Carbonate content	0.46
		Carbonate content	0.46				
		Low content of organic matter	0.88				
3:							
Appleseed----------	45	Poor		Poor		Poor	
		Depth to bedrock	0.00	Cobble content	0.00	Rock fragments	0.00
		Droughty	0.00	Depth to bedrock	0.00	Depth to bedrock	0.00
		Cobble content	0.16	Slope	0.68	Slope	0.00
		Carbonate content	0.20			Carbonate content	0.20
		Low content of organic matter	0.88				

Table 11.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
3:							
Huevi	40	Fair		Fair		Poor	
		Carbonate content	0.20	Slope	0.68	Hard to reclaim, rock fragments	0.00
		Low content of organic matter	0.50			Rock fragments	0.00
		Droughty	0.74			Slope	0.00
						Carbonate content	0.20
4:							
Aridic Argiustolls	60	Not rated		Not rated		Not rated	
Lithic Haplustolls	30	Not rated		Not rated		Not rated	
5:							
Arizo	40	Poor		Good		Poor	
		Droughty	0.00			Rock fragments	0.00
		Too sandy	0.00			Hard to reclaim, rock fragments	0.00
		Low content of organic matter	0.12			Too sandy	0.00
Detrital	30	Fair		Good		Poor	
		Droughty	0.05			Hard to reclaim, rock fragments	0.00
		Low content of organic matter	0.08			Rock fragments	0.00
Nickel	20	Poor		Good		Poor	
		Droughty	0.00			Rock fragments	0.00
		Low content of organic matter	0.50			Hard to reclaim, rock fragments	0.00
		Carbonate content	0.84			Carbonate content	0.84
6:							
Arizo	40	Poor		Good		Poor	
		Droughty	0.00			Rock fragments	0.00
		Too sandy	0.02			Hard to reclaim, rock fragments	0.00
		Low content of organic matter	0.88			Too sandy	0.02

Table 11.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
6:							
Franconia	30	Fair		Good		Fair	
		Too sandy	0.02			Too sandy	0.02
		Droughty	0.25			Hard to reclaim, rock fragments	0.50
		Low content of organic matter	0.88			Rock fragments	0.97
Riverwash	20	Not rated		Not rated		Not rated	
7:							
Arizo	55	Poor		Good		Poor	
		Droughty	0.00			Hard to reclaim, rock fragments	0.00
		Too sandy	0.00			Rock fragments	0.00
		Low content of organic matter	0.50			Too sandy	0.00
Riverwash	35	Not rated		Not rated		Not rated	
8:							
Arizo	50	Poor		Good		Poor	
		Droughty	0.00			Hard to reclaim, rock fragments	0.00
		Too sandy	0.00			Rock fragments	0.00
		Low content of organic matter	0.12			Too sandy	0.00
Riverwash	25	Not rated		Not rated		Not rated	
9:							
Arizo	60	Poor		Fair		Poor	
		Too sandy	0.00	Cobble content	0.67	Too sandy	0.00
		Droughty	0.01			Hard to reclaim, rock fragments	0.00
		Low content of organic matter	0.05			Rock fragments	0.00
		Cobble content	0.99				
Riverwash	30	Not rated		Not rated		Not rated	

Table 11.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
10:							
Arizo	55	Poor		Fair		Poor	
		Too sandy	0.00	Cobble content	0.02	Hard to reclaim, rock fragments	0.00
		Droughty	0.00			Rock fragments	0.00
		Low content of organic matter	0.50			Too sandy	0.00
		Cobble content	0.80				
Riverwash	35	Not rated		Not rated		Not rated	
11:							
Azure	45	Poor		Poor		Poor	
		Depth to bedrock	0.00	Depth to bedrock	0.00	Slope	0.00
		Droughty	0.00	Slope	0.82	Rock fragments	0.00
		Low content of organic matter	0.50			Depth to bedrock	0.00
Detrital	30	Fair		Fair		Poor	
		Droughty	0.09	Slope	0.82	Slope	0.00
		Low content of organic matter	0.50			Rock fragments	0.00
						Hard to reclaim, rock fragments	0.00
Antares	20	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Slope	0.00
		Depth to bedrock	0.00	Slope	0.82	Depth to bedrock	0.00
		Low content of organic matter	0.88			Rock fragments	0.00
12:							
Birdsbeak	90	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Too clayey	0.00
		Too clayey	0.00	Slope	0.08	Slope	0.00
		Depth to bedrock	0.00			Rock fragments	0.00
						Depth to bedrock	0.00

Table 11.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
13:							
Bluebird	50	Poor		Good		Poor	
		Droughty	0.00			Rock fragments	0.00
		Low content of organic matter	0.12			Hard to reclaim, rock fragments	0.00
Detrital	40	Fair		Good		Poor	
		Droughty	0.24			Rock fragments	0.00
		Low content of organic matter	0.50			Hard to reclaim, rock fragments	0.00
14:							
Bluebird	70	Fair		Good		Poor	
		Low content of organic matter	0.12			Rock fragments	0.00
		Droughty	0.96			Hard to reclaim, rock fragments	0.00
Lostman	25	Fair		Good		Poor	
		Low content of organic matter	0.88			Rock fragments	0.00
						Hard to reclaim, rock fragments	0.50
15:							
Carrizo	75	Poor		Good		Poor	
		Droughty	0.00			Rock fragments	0.00
		Low content of organic matter	0.12			Hard to reclaim, rock fragments	0.00
		Too sandy	0.47			Too sandy	0.47
Carrizo, rarely flooded	20	Poor		Good		Poor	
		Droughty	0.00			Rock fragments	0.00
		Low content of organic matter	0.12			Hard to reclaim, rock fragments	0.00
		Too sandy	0.47			Too sandy	0.47

Table 11.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
16:							
Carrizo	75	Poor		Good		Poor	
		Droughty	0.00			Rock fragments	0.00
		Low content of organic matter	0.12			Hard to reclaim, rock fragments	0.00
		Too sandy	0.47			Too sandy	0.47
Riverwash	15	Not rated		Not rated		Not rated	
17:							
Carrizo	75	Poor		Good		Poor	
		Droughty	0.00			Hard to reclaim, rock fragments	0.00
		Low content of organic matter	0.12			Rock fragments	0.00
		Too sandy	0.47			Too sandy	0.47
Riverwash	15	Not rated		Not rated		Not rated	
18:							
Chuckawalla	65	Fair		Good		Poor	
		Droughty	0.04			Rock fragments	0.00
		Salinity	0.72			Salinity	0.00
		Low content of organic matter	0.88			Hard to reclaim, rock fragments	0.00
		Carbonate content	0.92			Carbonate content	0.92
						Slope	0.96
Riverbend	25	Poor		Good		Poor	
		Droughty	0.00			Hard to reclaim, rock fragments	0.00
		Too sandy	0.02			Rock fragments	0.00
		Low content of organic matter	0.50			Too sandy	0.02
						Slope	0.96

Table 11.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
19:							
Circular	45	Fair		Good		Fair	
		Low content of organic matter	0.50			Rock fragments	0.98
Circular	40	Fair		Good		Poor	
		Droughty	0.87			Rock fragments	0.00
		Low content of organic matter	0.88			Hard to reclaim, rock fragments	0.50
20:							
Circular	50	Fair		Good		Fair	
		Sodium content	0.78			Sodium content	0.78
		Low content of organic matter	0.88				
Dusty	30	Poor		Fair		Poor	
		Sodium content	0.00			Sodium content	0.00
		Too alkaline	0.00			Too clayey	0.49
		Too clayey	0.68			Carbonate content	0.99
		Low content of organic matter	0.88				
		Carbonate content	0.95				
21:							
Cod	90	Poor		Good		Poor	
		Too alkaline	0.00			Rock fragments	0.00
		Carbonate content	0.61			Hard to reclaim, rock fragments	0.00
		Droughty	0.83			Carbonate content	0.61
		Low content of organic matter	0.88				
22:							
Cordes	45	Fair		Good		Poor	
		Droughty	0.75			Hard to reclaim, rock fragments	0.00
		Low content of organic matter	0.88			Rock fragments	0.97

Table 11.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
22:							
Manikan	25	Poor		Fair		Poor	
		Sodium content	0.00			Salinity	0.00
		Low content of organic matter	0.88			Sodium content	0.00
Riverwash	10	Not rated		Not rated		Not rated	
23:							
Cupel	60	Poor		Poor		Poor	
		Depth to bedrock	0.00	Depth to bedrock	0.00	Rock fragments	0.00
		Droughty	0.00	Slope	0.00	Depth to bedrock	0.00
		Low content of organic matter	0.88	Cobble content	0.16	Slope	0.00
		Cobble content	0.94	Shrink-swell	0.87		
Rock outcrop	20	Not rated		Not rated		Not rated	
24:							
Cyclopic	80	Poor		Poor		Poor	
		Stone content	0.00	Depth to cemented pan	0.00	Rock fragments	0.00
		Droughty	0.00	Low strength	0.00	Too clayey	0.00
		Too clayey	0.00	Stone content	0.00	Depth to cemented pan	0.16
		Depth to cemented pan	0.16	Cobble content	0.73		
		Cobble content	0.68	Shrink-swell	0.87		
		Low content of organic matter	0.88				
25:							
Deluge	50	Poor		Poor		Poor	
		Droughty	0.00	Depth to cemented pan	0.00	Rock fragments	0.00
		Depth to cemented pan	0.10	Depth to bedrock	0.74	Depth to cemented pan	0.10
		Low content of organic matter	0.88	Shrink-swell	0.87		

Table 11.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
25:							
Gotchell	17	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Rock fragments	0.00
		Depth to cemented pan	0.00	Depth to cemented pan	0.00	Depth to cemented pan	0.00
		Depth to bedrock	0.35			Depth to bedrock	0.35
		Low content of organic matter	0.88				
Sunstroke	13	Poor		Poor		Poor	
		Droughty	0.00	Depth to cemented pan	0.00	Rock fragments	0.00
		Depth to cemented pan	0.10	Depth to bedrock	0.16	Depth to cemented pan	0.10
		Low content of organic matter	0.88				
26:							
Detrital	45	Fair		Good		Poor	
		Droughty	0.09			Hard to reclaim, rock fragments	0.00
		Low content of organic matter	0.50			Rock fragments	0.00
Bluebird	35	Fair		Good		Poor	
		Droughty	0.25			Hard to reclaim, rock fragments	0.00
		Low content of organic matter	0.88			Rock fragments	0.00
27:							
Detrital	55	Fair		Good		Poor	
		Low content of organic matter	0.05			Rock fragments	0.00
		Droughty	0.05			Hard to reclaim, rock fragments	0.00

Table 11.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
27:							
Nealy	35	Fair		Poor		Poor	
		Droughty	0.03	Depth to cemented pan	0.00	Rock fragments	0.00
		Low content of organic matter	0.12			Depth to cemented pan	0.80
		Depth to cemented pan	0.80				
28:							
Detrital	60	Fair		Good		Poor	
		Droughty	0.11			Rock fragments	0.00
		Low content of organic matter	0.50			Hard to reclaim, rock fragments	0.00
Nickel	35	Poor		Good		Poor	
		Too sandy	0.00			Rock fragments	0.00
		Droughty	0.00			Too sandy	0.00
		Too alkaline	0.00				
		Low content of organic matter	0.50				
		Carbonate content	0.92				
29:							
Detrital	60	Fair		Good		Poor	
		Droughty	0.11			Rock fragments	0.00
		Low content of organic matter	0.50			Hard to reclaim, rock fragments	0.00
Nickel family	25	Fair		Fair		Poor	
		Droughty	0.01	Depth to cemented pan	0.04	Rock fragments	0.00
		Low content of organic matter	0.50			Hard to reclaim, rock fragments	0.00
		Carbonate content	0.97				

Table 11.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
30:							
Detrital	50	Fair		Good		Poor	
		Droughty	0.09			Rock fragments	0.00
		Low content of organic matter	0.50			Hard to reclaim, rock fragments	0.00
Skelon family	30	Poor		Poor		Poor	
		Droughty	0.00	Depth to cemented pan	0.00	Rock fragments	0.00
		Depth to cemented pan	0.03			Depth to cemented pan	0.03
		Low content of organic matter	0.88				
31:							
Dusty	70	Poor		Poor		Poor	
		Too alkaline	0.00	Low strength	0.00	Sodium content	0.00
		Sodium content	0.00	Shrink-swell	0.95	Carbonate content	0.84
		Carbonate content	0.00				
		Low content of organic matter	0.50				
Kurstan family	15	Poor		Good		Good	
		Too alkaline	0.00				
		Carbonate content	0.32				
		Low content of organic matter	0.50				
32:							
Dutchflat	80	Fair		Fair		Good	
		Low content of organic matter	0.88	Shrink-swell	0.99		
33:							
Dye	50	Poor		Poor		Poor	
		Depth to bedrock	0.00	Depth to bedrock	0.00	Depth to bedrock	0.00
		Droughty	0.00	Low strength	0.00	Too clayey	0.00
		Too clayey	0.00	Shrink-swell	0.12	Slope	0.00
				Slope	0.98		

Table 11.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
33:							
Tovar	20	Poor		Poor		Poor	
		Too clayey	0.00	Depth to bedrock	0.00	Slope	0.00
		Droughty	0.87	Low strength	0.00	Too clayey	0.00
		Low content of organic matter	0.88	Shrink-swell	0.20	Depth to bedrock	0.90
		Stone content	0.88	Stone content	0.88		
		Depth to bedrock	0.90	Slope	0.98		
Rock outcrop	15	Not rated		Not rated		Not rated	
34:							
Faraway	70	Poor		Poor		Poor	
		Depth to bedrock	0.00	Slope	0.00	Rock fragments	0.00
		Droughty	0.00	Depth to bedrock	0.00	Slope	0.00
						Depth to bedrock	0.00
Rock outcrop	20	Not rated		Not rated		Not rated	
35:							
Fig	50	Poor		Poor		Poor	
		Depth to bedrock	0.00	Depth to bedrock	0.00	Depth to bedrock	0.00
		Droughty	0.00	Slope	0.00	Rock fragments	0.00
		Stone content	0.19			Slope	0.00
		Low content of organic matter	0.50				
Blind	25	Fair		Poor		Poor	
		Droughty	0.66	Slope	0.00	Rock fragments	0.00
		Low content of organic matter	0.88	Cobble content	0.30	Hard to reclaim, rock fragments	0.00
		Cobble content	0.92			Slope	0.00
Nodman	15	Poor		Poor		Poor	
		Depth to bedrock	0.00	Slope	0.00	Rock fragments	0.00
		Droughty	0.00	Depth to bedrock	0.00	Slope	0.00
		Low content of organic matter	0.88			Depth to bedrock	0.00

Table 11.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
36:							
Filaree	80	Fair		Good		Poor	
		Low content of organic matter	0.88			Rock fragments	0.00
		Droughty	0.94			Hard to reclaim, rock fragments	0.54
37:							
Filaree	60	Fair		Good		Poor	
		Low content of organic matter	0.88			Rock fragments	0.00
		Droughty	0.94			Hard to reclaim, rock fragments	0.54
Dutchflat	30	Fair		Good		Poor	
		Low content of organic matter	0.50			Hard to reclaim, rock fragments	0.00
		Droughty	0.99			Rock fragments	0.00
38:							
Garnet	50	Poor		Good		Poor	
		Too sandy	0.00			Hard to reclaim, rock fragments	0.00
		Low content of organic matter	0.12			Too sandy	0.00
		Droughty	0.30			Rock fragments	0.00
Dutchflat	40	Fair		Good		Poor	
		Low content of organic matter	0.50			Hard to reclaim, rock fragments	0.00
		Droughty	0.99			Rock fragments	0.00
39:							
Goesling family	75	Fair		Fair		Fair	
		Too clayey	0.32	Low strength	0.22	Too clayey	0.28
		Carbonate content	0.80	Shrink-swell	0.92	Carbonate content	0.80
						Rock fragments	0.98

Table 11.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
40:							
Goldroad	75	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Depth to bedrock	0.00
		Depth to bedrock	0.00	Slope	0.00	Slope	0.00
		Low content of organic matter	0.50			Rock fragments	0.00
Rock outcrop	10	Not rated		Not rated		Not rated	
41:							
Goldroad	75	Poor		Poor		Poor	
		Depth to bedrock	0.00	Depth to bedrock	0.00	Depth to bedrock	0.00
		Droughty	0.00	Slope	0.00	Rock fragments	0.00
		Low content of organic matter	0.50	Cobble content	0.25	Slope	0.00
		Cobble content	0.97				
Rock outcrop	20	Not rated		Not rated		Not rated	
42:							
Gonzales	60	Poor		Poor		Poor	
		Depth to bedrock	0.00	Slope	0.00	Depth to bedrock	0.00
		Too clayey	0.00	Depth to bedrock	0.00	Slope	0.00
		Droughty	0.00	Low strength	0.00	Too clayey	0.00
				Shrink-swell	0.12		
Rock outcrop	25	Not rated		Not rated		Not rated	
43:							
Goodsprings family	75	Poor		Fair		Poor	
		Droughty	0.00	Slope	0.08	Slope	0.00
		Low content of organic matter	0.12			Rock fragments	0.00

Table 11.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
44:							
Gotchell	50	Poor		Poor		Poor	
		Droughty	0.00	Depth to cemented pan	0.00	Rock fragments	0.00
		Depth to cemented pan	0.00	Depth to bedrock	0.00	Slope	0.00
		Depth to bedrock	0.35	Slope	0.32	Depth to cemented pan	0.00
		Low content of organic matter	0.88			Depth to bedrock	0.35
Sunstroke	30	Poor		Poor		Poor	
		Droughty	0.00	Depth to cemented pan	0.00	Rock fragments	0.00
		Depth to cemented pan	0.10	Depth to bedrock	0.16	Slope	0.00
		Low content of organic matter	0.88	Slope	0.32	Depth to cemented pan	0.10
45:							
Graham	60	Poor		Poor		Poor	
		Depth to bedrock	0.00	Low strength	0.00	Depth to bedrock	0.00
		Too clayey	0.00	Depth to bedrock	0.00	Too clayey	0.00
		Droughty	0.00	Shrink-swell	0.12	Slope	0.96
						Rock fragments	0.97
Arivaca	25	Poor		Poor		Poor	
		Too clayey	0.00	Depth to bedrock	0.00	Too clayey	0.00
		Droughty	0.17	Low strength	0.00	Depth to bedrock	0.58
		Low content of organic matter	0.50	Shrink-swell	0.13	Slope	0.96
		Depth to bedrock	0.58				
		Carbonate content	0.92				
46:							
Graham	60	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Droughty	0.00	Slope	0.00	Depth to bedrock	0.00
		Depth to bedrock	0.00	Depth to bedrock	0.00	Slope	0.00
				Shrink-swell	0.12	Rock fragments	0.97

Table 11.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
46:							
Rock outcrop--------	20	Not rated		Not rated		Not rated	
47:							
Grandwash-----------	85	Poor		Poor		Poor	
		Too clayey	0.00	Stone content	0.00	Too clayey	0.00
		Cobble content	0.00	Cobble content	0.00	Rock fragments	0.00
		Depth to bedrock	0.00	Depth to bedrock	0.00	Depth to bedrock	0.00
		Stone content	0.00	Shrink-swell	0.87	Slope	0.04
		Droughty	0.00				
48:							
Greyeagle family----	80	Poor		Poor		Poor	
		Cobble content	0.00	Slope	0.00	Rock fragments	0.00
		Droughty	0.00	Depth to cemented pan	0.00	Slope	0.00
		Depth to cemented pan	0.00	Cobble content	0.07	Depth to cemented pan	0.00
		Low content of organic matter	0.88				
49:							
Greyeagle family----	75	Poor		Poor		Poor	
		Droughty	0.00	Slope	0.00	Rock fragments	0.00
		Depth to cemented pan	0.00	Depth to cemented pan	0.00	Depth to cemented pan	0.00
		Low content of organic matter	0.88			Slope	0.00
50:							
Greyeagle family----	70	Poor		Poor		Poor	
		Depth to cemented pan	0.00	Depth to cemented pan	0.00	Depth to cemented pan	0.00
		Droughty	0.00			Rock fragments	0.00
		Low content of organic matter	0.50				

Table 11.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
50:							
Cyclopic	20	Poor		Poor		Poor	
		Droughty	0.00	Depth to cemented pan	0.00	Rock fragments	0.00
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Stone content	0.03	Stone content	0.66	Depth to cemented pan	0.21
		Depth to cemented pan	0.21	Shrink-swell	0.87		
		Low content of organic matter	0.88				
51:							
Greyeagle family	70	Poor		Poor		Poor	
		Depth to cemented pan	0.00	Depth to cemented pan	0.00	Rock fragments	0.00
		Droughty	0.00			Depth to cemented pan	0.00
		Carbonate content	0.80			Carbonate content	0.80
		Low content of organic matter	0.88				
Skelon family	20	Poor		Poor		Poor	
		Droughty	0.00	Depth to cemented pan	0.00	Rock fragments	0.00
		Depth to cemented pan	0.10			Depth to cemented pan	0.10
		Carbonate content	0.80			Carbonate content	0.80
		Low content of organic matter	0.88				
52:							
Greyeagle family	60	Poor		Poor		Poor	
		Depth to cemented pan	0.00	Depth to cemented pan	0.00	Slope	0.00
		Droughty	0.00			Depth to cemented pan	0.00
		Carbonate content	0.80			Rock fragments	0.00
		Low content of organic matter	0.88			Carbonate content	0.80

Table 11.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
52:							
Skelon family-------	20	Poor		Poor		Poor	
		Droughty	0.00	Depth to cemented pan	0.00	Rock fragments	0.00
		Depth to cemented pan	0.10			Slope	0.00
		Low content of organic matter	0.88			Depth to cemented pan	0.10
53:							
Gypsids----------	90	Not rated		Not rated		Not rated	
54:							
Haplogypsids, eroded	70	Not rated		Not rated		Not rated	
Haplogypsids--------	30	Not rated		Not rated		Not rated	
55:							
Hassell family------	50	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Slope	0.00
		Droughty	0.47	Depth to bedrock	0.00	Too clayey	0.00
		Depth to bedrock	0.58	Slope	0.50	Depth to bedrock	0.58
				Shrink-swell	0.87	Rock fragments	0.97
Lampshire----------	25	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Depth to bedrock	0.00
		Depth to bedrock	0.00	Slope	0.00	Rock fragments	0.00
						Slope	0.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
56:							
Hindu---------------	60	Poor		Poor		Poor	
		Depth to bedrock	0.00	Depth to bedrock	0.00	Rock fragments	0.00
		Droughty	0.00	Slope	0.00	Slope	0.00
		Low content of organic matter	0.12	Cobble content	0.44	Depth to bedrock	0.00
		Carbonate content	0.61			Carbonate content	0.61
		Cobble content	0.99				

Table 11.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
56:							
Rock outcrop--------	20	Not rated		Not rated		Not rated	
57:							
Hooks family--------	45	Fair		Good		Fair	
		Low content of organic matter	0.12			Sodium content	0.78
		Sodium content	0.78			Hard to reclaim, rock fragments	0.99
Courtland family----	40	Fair		Fair		Fair	
		Low content of organic matter	0.12	Depth to bedrock	0.12	Hard to reclaim, rock fragments	0.68
		Droughty	0.73			Sodium content	0.78
		Sodium content	0.78				
58:							
Hosta family--------	75	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Low content of organic matter	0.88	Shrink-swell	0.07		
		Water erosion	0.99				
59:							
House Mountain family----------	40	Poor		Poor		Poor	
		Depth to bedrock	0.00	Depth to bedrock	0.00	Slope	0.00
		Droughty	0.00	Slope	0.08	Rock fragments	0.00
		Low content of organic matter	0.50			Depth to bedrock	0.00
Calvista family-----	30	Poor		Poor		Poor	
		Depth to bedrock	0.00	Depth to bedrock	0.00	Rock fragments	0.00
		Droughty	0.00	Slope	0.08	Depth to bedrock	0.00
		Carbonate content	0.68			Slope	0.00
		Low content of organic matter	0.88			Carbonate content	0.68

Table 11.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
59:							
Rock outcrop--------	20	Not rated		Not rated		Not rated	
60:							
Huevi---------------	90	Fair		Fair		Poor	
		Droughty	0.29	Stone content	0.88	Rock fragments	0.00
		Low content of organic matter	0.50			Hard to reclaim, rock fragments	0.00
		Stone content	0.78			Carbonate content	0.80
		Carbonate content	0.80				
61:							
Huevi---------------	85	Poor		Fair		Poor	
		Droughty	0.00	Slope	0.08	Slope	0.00
		Low content of organic matter	0.88			Rock fragments	0.00
						Hard to reclaim, rock fragments	0.00
62:							
Huevi---------------	80	Poor		Poor		Poor	
		Droughty	0.00	Slope	0.00	Hard to reclaim, rock fragments	0.00
		Low content of organic matter	0.50			Slope	0.00
		Carbonate content	0.99			Rock fragments	0.00
63:							
Huevi---------------	65	Poor		Good		Poor	
		Droughty	0.00			Rock fragments	0.00
		Low content of organic matter	0.50			Hard to reclaim, rock fragments	0.00
		Sodium content	0.78			Slope	0.16
						Sodium content	0.78
						Salinity	0.85
Carrizo-------------	15	Poor		Good		Poor	
		Droughty	0.00			Rock fragments	0.00
		Low content of organic matter	0.12			Hard to reclaim, rock fragments	0.00
		Too sandy	0.47			Too sandy	0.47

Table 11.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
64:							
Huevi	65	Poor		Fair		Poor	
		Too alkaline	0.00	Slope	0.82	Hard to reclaim, rock fragments	0.00
		Droughty	0.00			Rock fragments	0.00
		Low content of organic matter	0.50			Slope	0.00
Carrwash	20	Poor		Poor		Poor	
		Too sandy	0.00	Slope	0.00	Slope	0.00
		Droughty	0.00			Too sandy	0.00
		Low content of organic matter	0.12			Hard to reclaim, rock fragments	0.00
						Rock fragments	0.00
65:							
Huevi	50	Poor		Poor		Poor	
		Cobble content	0.00	Slope	0.00	Slope	0.00
		Low content of organic matter	0.50	Cobble content	0.00	Rock fragments	0.00
		Stone content	0.50	Stone content	0.50	Hard to reclaim, rock fragments	0.00
		Droughty	0.56			Carbonate content	0.80
		Carbonate content	0.80				
Sunrock	30	Poor		Poor		Poor	
		Droughty	0.00	Slope	0.00	Depth to bedrock	0.00
		Depth to bedrock	0.00	Depth to bedrock	0.00	Rock fragments	0.00
		Low content of organic matter	0.50			Slope	0.00
Rock outcrop	10	Not rated		Not rated		Not rated	
66:							
Hulda	75	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Slope	0.00
		Depth to bedrock	0.00	Slope	0.00	Depth to bedrock	0.00
		Low content of organic matter	0.50			Rock fragments	0.00

Table 11.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
67:							
Hulda	70	Poor		Poor		Poor	
		Depth to bedrock	0.00	Depth to bedrock	0.00	Slope	0.00
		Droughty	0.00	Slope	0.00	Rock fragments	0.00
		Low content of organic matter	0.50			Depth to bedrock	0.00
Rock outcrop	20	Not rated		Not rated		Not rated	
68:							
Hulda	50	Poor		Poor		Poor	
		Depth to bedrock	0.00	Stone content	0.00	Rock fragments	0.00
		Droughty	0.00	Slope	0.00	Slope	0.00
		Stone content	0.00	Depth to bedrock	0.00	Depth to bedrock	0.00
		Cobble content	0.92	Cobble content	0.13		
Rock outcrop	35	Not rated		Not rated		Not rated	
69:							
Ireteba family	45	Fair		Good		Poor	
		Droughty	0.61			Hard to reclaim, rock fragments	0.00
		Low content of organic matter	0.88			Rock fragments	0.00
Arizo	30	Poor		Good		Poor	
		Droughty	0.00			Hard to reclaim, rock fragments	0.00
		Too sandy	0.02			Rock fragments	0.00
		Low content of organic matter	0.88			Too sandy	0.02
70:							
Jagerson	85	Fair		Good		Poor	
		Carbonate content	0.08			Hard to reclaim, rock fragments	0.00
		Droughty	0.49			Rock fragments	0.00
		Low content of organic matter	0.50			Carbonate content	0.08

Table 11.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
71:							
Jagerson	45	Fair		Good		Poor	
		Carbonate content	0.32			Rock fragments	0.00
		Droughty	0.61			Hard to reclaim, rock fragments	0.00
		Low content of organic matter	0.88			Carbonate content	0.32
Nealy	40	Fair		Poor		Poor	
		Droughty	0.02	Depth to cemented pan	0.00	Rock fragments	0.00
		Low content of organic matter	0.12			Depth to cemented pan	0.80
		Depth to cemented pan	0.80				
72:							
Kingtut	45	Poor		Poor		Poor	
		Too clayey	0.00	Depth to cemented pan	0.00	Too clayey	0.00
		Depth to cemented pan	0.00	Depth to bedrock	0.00	Depth to cemented pan	0.00
		Droughty	0.00	Low strength	0.00	Rock fragments	0.00
		Depth to bedrock	0.79	Shrink-swell	0.87	Depth to bedrock	0.79
Promontory	35	Poor		Poor		Poor	
		Droughty	0.00	Depth to cemented pan	0.00	Rock fragments	0.00
		Depth to cemented pan	0.00	Depth to bedrock	0.00	Depth to cemented pan	0.00
		Depth to bedrock	0.00			Depth to bedrock	0.00
73:							
Kinley	75	Poor		Poor		Poor	
		Carbonate content	0.00	Slope	0.00	Slope	0.00
		Low content of organic matter	0.88			Hard to reclaim, rock fragments	0.00
						Rock fragments	0.97

Table 11.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
74:							
Kurstan family------	60	Poor		Good		Fair	
		Too alkaline	0.00			Carbonate content	0.92
		Low content of organic matter	0.50				
		Salinity	0.70				
		Carbonate content	0.92				
Dusty---------------	30	Poor		Poor		Poor	
		Carbonate content	0.00	Low strength	0.00	Sodium content	0.00
		Sodium content	0.00	Shrink-swell	0.95	Carbonate content	0.84
		Too alkaline	0.00				
		Low content of organic matter	0.50				
75:							
Lampshire-----------	65	Poor		Poor		Poor	
		Depth to bedrock	0.00	Slope	0.00	Slope	0.00
		Droughty	0.00	Depth to bedrock	0.00	Rock fragments	0.00
						Depth to bedrock	0.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
76:							
Lostman-------------	80	Fair		Good		Poor	
		Droughty	0.30			Hard to reclaim, rock fragments	0.00
						Rock fragments	0.00
77:							
Lostman-------------	80	Fair		Good		Poor	
		Droughty	0.94			Rock fragments	0.00
						Hard to reclaim, rock fragments	0.68

Table 11.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
78:							
Luzena	45	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Too clayey	0.00
		Too clayey	0.00	Shrink-swell	0.00	Depth to bedrock	0.00
		Depth to bedrock	0.00	Low strength	0.00	Slope	0.37
		Low content of organic matter	0.88	Cobble content	0.99	Rock fragments	0.88
Thunderbird	30	Poor		Poor		Poor	
		Too clayey	0.00	Depth to bedrock	0.00	Too clayey	0.00
		Droughty	0.07	Low strength	0.00	Slope	0.37
		Depth to bedrock	0.58	Shrink-swell	0.73	Rock fragments	0.50
		Low content of organic matter	0.88			Depth to bedrock	0.58
79:							
Lykorly	85	Fair		Poor		Good	
		Low content of organic matter	0.88	Low strength	0.00		
		Too acid	0.99	Shrink-swell	0.94		
80:							
Lykorly	75	Fair		Good		Good	
		Water erosion	0.90				
81:							
Manikan	60	Poor		Fair		Poor	
		Sodium content	0.00			Salinity	0.00
		Low content of organic matter	0.88			Sodium content	0.00
Nuffel	25	Fair		Poor		Good	
		Water erosion	0.90	Low strength	0.00		

Table 11.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
82:							
Mathis family-------	55	Poor		Poor		Poor	
		Cobble content	0.00	Cobble content	0.00	Rock fragments	0.00
		Too sandy	0.00	Stone content	0.00	Hard to reclaim, rock fragments	0.00
		Stone content	0.00			Too sandy	0.00
		Droughty	0.00				
Riverwash----------	35	Not rated		Not rated		Not rated	
83:							
Mayswell----------	75	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Slope	0.00
		Depth to bedrock	0.00	Depth to bedrock	0.00	Too clayey	0.00
		Droughty	0.00	Cobble content	0.01	Depth to bedrock	0.00
		Low content of organic matter	0.50	Slope	0.08	Rock fragments	0.00
		Cobble content	0.77	Shrink-swell	0.12		
Rock outcrop--------	15	Not rated		Not rated		Not rated	
84:							
Meadview----------	80	Poor		Poor		Poor	
		Droughty	0.00	Cobble content	0.00	Slope	0.00
		Too sandy	0.00	Slope	0.08	Rock fragments	0.00
		Cobble content	0.09			Hard to reclaim, rock fragments	0.00
		Low content of organic matter	0.12			Too sandy	0.00
		Carbonate content	0.92			Carbonate content	0.99
85:							
Meadview----------	60	Poor		Fair		Poor	
		Droughty	0.00	Cobble content	0.27	Hard to reclaim, rock fragments	0.00
		Low content of organic matter	0.88			Slope	0.00
		Carbonate content	0.95			Rock fragments	0.00
		Cobble content	0.99			Carbonate content	0.95

Table 11.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
85:							
Yurm family---------	30	Poor		Poor		Poor	
		Depth to cemented pan	0.00	Depth to cemented pan	0.00	Depth to cemented pan	0.00
		Droughty	0.00	Cobble content	0.96	Rock fragments	0.00
		Low content of organic matter	0.88				
86:							
Meriwhitica---------	65	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Slope	0.00
		Depth to bedrock	0.00	Slope	0.00	Depth to bedrock	0.00
		Carbonate content	0.84			Rock fragments	0.00
						Carbonate content	0.84
Rock outcrop--------	15	Not rated		Not rated		Not rated	
87:							
Mextank-------------	80	Poor		Good		Poor	
		Droughty	0.00			Rock fragments	0.00
		Low content of organic matter	0.88			Hard to reclaim, rock fragments	0.00
		Carbonate content	0.92				
88:							
Milkweed------------	50	Poor		Poor		Poor	
		Depth to cemented pan	0.00	Depth to cemented pan	0.00	Rock fragments	0.00
		Droughty	0.00			Depth to cemented pan	0.00
		Carbonate content	0.08			Carbonate content	0.08
						Slope	0.63
Quartermaster-------	30	Fair		Fair		Fair	
		Droughty	0.10	Shrink-swell	0.98	Carbonate content	0.80
		Carbonate content	0.46			Rock fragments	0.97

Table 11.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
88:							
Buckndoe	15	Fair		Fair		Poor	
		Droughty	0.10	Cobble content	0.77	Rock fragments	0.00
		Carbonate content	0.32			Slope	0.63
		Low content of organic matter	0.88			Carbonate content	0.97
89:							
Milok	55	Fair		Good		Poor	
		Carbonate content	0.01			Rock fragments	0.00
		Low content of organic matter	0.88			Carbonate content	0.46
Pastern	35	Poor		Poor		Poor	
		Depth to cemented pan	0.00	Depth to cemented pan	0.00	Depth to cemented pan	0.00
		Droughty	0.00			Rock fragments	0.00
		Low content of organic matter	0.12				
90:							
Mutang	45	Poor		Poor		Poor	
		Too clayey	0.00	Depth to bedrock	0.00	Too clayey	0.00
		Depth to bedrock	0.00	Low strength	0.00	Depth to bedrock	0.00
		Droughty	0.00	Shrink-swell	0.22	Rock fragments	0.00
		Low content of organic matter	0.88				
Dutchflat	40	Fair		Fair		Good	
		Low content of organic matter	0.88	Shrink-swell	0.99		
91:							
Mutang	55	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Slope	0.00
		Depth to bedrock	0.00	Depth to bedrock	0.00	Too clayey	0.00
		Droughty	0.00	Shrink-swell	0.22	Rock fragments	0.00
		Low content of organic matter	0.88	Slope	0.92	Depth to bedrock	0.00

Table 11.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
91:							
Wikieup	25	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Depth to bedrock	0.00
		Depth to bedrock	0.00	Slope	0.92	Rock fragments	0.00
		Low content of organic matter	0.32			Slope	0.00
Rock outcrop	15	Not rated		Not rated		Not rated	
92:							
Nealy	60	Fair		Poor		Fair	
		Droughty	0.03	Depth to cemented pan	0.00	Depth to cemented pan	0.05
		Depth to cemented pan	0.05				
		Low content of organic matter	0.50				
		Carbonate content	0.80				
Shamock family	30	Fair		Poor		Fair	
		Droughty	0.05	Depth to cemented pan	0.00	Depth to cemented pan	0.05
		Depth to cemented pan	0.05			Carbonate content	0.92
		Low content of organic matter	0.50			Rock fragments	0.98
		Carbonate content	0.92				
93:							
Nealy	40	Fair		Poor		Poor	
		Droughty	0.02	Depth to cemented pan	0.00	Rock fragments	0.00
		Low content of organic matter	0.12			Depth to cemented pan	0.80
		Depth to cemented pan	0.80				

Table 11.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
93:							
Skelon family-------	30	Poor		Poor		Poor	
		Droughty	0.00	Depth to cemented pan	0.00	Rock fragments	0.00
		Low content of organic matter	0.88			Carbonate content	0.92
		Carbonate content	0.92			Depth to cemented pan	0.94
		Depth to cemented pan	0.94				
Detrital----------	25	Fair		Good		Poor	
		Droughty	0.11			Rock fragments	0.00
		Low content of organic matter	0.50			Hard to reclaim, rock fragments	0.00
94:							
Nickel family-------	45	Poor		Poor		Poor	
		Droughty	0.00	Slope	0.00	Rock fragments	0.00
		Low content of organic matter	0.50			Hard to reclaim, rock fragments	0.00
		Carbonate content	0.84			Slope	0.00
Bluebird----------	25	Fair		Poor		Poor	
		Droughty	0.35	Slope	0.00	Rock fragments	0.00
		Low content of organic matter	0.88			Hard to reclaim, rock fragments	0.00
						Slope	0.00
95:							
Nickel--------------	45	Fair		Good		Poor	
		Droughty	0.01			Rock fragments	0.00
		Low content of organic matter	0.50			Hard to reclaim, rock fragments	0.00
		Carbonate content	0.88			Carbonate content	0.88

Table 11.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
95:							
Skelon family-------	25	Poor		Poor		Poor	
		Droughty	0.00	Depth to cemented pan	0.00	Rock fragments	0.00
		Carbonate content	0.80			Carbonate content	0.80
		Low content of organic matter	0.88			Depth to cemented pan	0.90
		Depth to cemented pan	0.90				
Detrital----------	15	Fair		Good		Poor	
		Droughty	0.09			Rock fragments	0.00
		Low content of organic matter	0.50			Hard to reclaim, rock fragments	0.00
96:							
Nickel family-------	35	Fair		Poor		Poor	
		Droughty	0.41	Slope	0.00	Rock fragments	0.00
		Carbonate content	0.80			Hard to reclaim, rock fragments	0.00
		Low content of organic matter	0.88			Slope	0.00
						Carbonate content	0.80
Topawa family-------	30	Fair		Poor		Poor	
		Droughty	0.23	Slope	0.00	Slope	0.00
		Low content of organic matter	0.88			Hard to reclaim, rock fragments	0.00
						Rock fragments	0.00
Eba family----------	25	Poor		Fair		Poor	
		Too clayey	0.00	Slope	0.82	Rock fragments	0.00
		Droughty	0.27	Shrink-swell	0.94	Slope	0.00
		Low content of organic matter	0.88			Too clayey	0.00
		Carbonate content	0.92			Hard to reclaim, rock fragments	0.00

Table 11.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
97:							
Nodman	40	Poor		Poor		Poor	
		Depth to bedrock	0.00	Depth to bedrock	0.00	Depth to bedrock	0.00
		Droughty	0.00	Shrink-swell	0.87	Rock fragments	0.00
		Low content of organic matter	0.50				
Antares	35	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Depth to bedrock	0.00
		Depth to bedrock	0.00			Rock fragments	0.00
		Low content of organic matter	0.88				
98:							
Nodman	60	Poor		Poor		Poor	
		Depth to bedrock	0.00	Depth to bedrock	0.00	Depth to bedrock	0.00
		Droughty	0.00	Shrink-swell	0.78	Rock fragments	0.00
		Low content of organic matter	0.12			Sodium content	0.90
		Too acid	0.84			Slope	0.96
		Sodium content	0.90				
Courtland family	25	Fair		Poor		Poor	
		Low content of organic matter	0.12	Low strength	0.00	Rock fragments	0.00
		Droughty	0.38	Depth to bedrock	0.00	Depth to bedrock	0.46
		Depth to bedrock	0.46	Shrink-swell	0.78	Sodium content	0.90
		Too acid	0.84			Slope	0.96
		Sodium content	0.90				
99:							
Nodman	65	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Slope	0.00
		Depth to bedrock	0.00	Slope	0.00	Rock fragments	0.00
		Low content of organic matter	0.12			Depth to bedrock	0.00
		Sodium content	0.40			Sodium content	0.40
		Too acid	0.88				

Table 11.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
99:							
Rock outcrop--------	20	Not rated		Not rated		Not rated	
100:							
Nodman--------------	60	Poor		Poor		Poor	
		Depth to bedrock	0.00	Slope	0.00	Depth to bedrock	0.00
		Droughty	0.00	Depth to bedrock	0.00	Rock fragments	0.00
		Low content of organic matter	0.12	Shrink-swell	0.78	Slope	0.00
		Cobble content	0.45			Sodium content	0.78
		Sodium content	0.78				
		Too acid	0.92				
Romero family-------	20	Poor		Poor		Poor	
		Depth to bedrock	0.00	Slope	0.00	Rock fragments	0.00
		Droughty	0.00	Depth to bedrock	0.00	Slope	0.00
		Low content of organic matter	0.12			Depth to bedrock	0.00
		Cobble content	0.25			Sodium content	0.78
		Sodium content	0.78				
		Too acid	0.92				
101:							
Nolam family--------	35	Fair		Fair		Poor	
		Carbonate content	0.03	Shrink-swell	0.88	Rock fragments	0.00
		Low content of organic matter	0.12			Sodium content	0.78
		Droughty	0.21				
		Sodium content	0.78				
		Too acid	0.88				

Table 11.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
101:							
Ustalfic Petrocalcids-------	30	Fair		Not rated		Poor	
		Low content of organic matter	0.12			Rock fragments	0.00
		Droughty	0.17			Sodium content	0.40
		Sodium content	0.40			Depth to cemented pan	0.99
		Stone content	0.92				
		Depth to cemented pan	0.99				
		Too acid	0.99				
Caralampi family----	25	Fair		Fair		Poor	
		Low content of organic matter	0.12	Shrink-swell	0.99	Hard to reclaim, rock fragments	0.00
		Droughty	0.31			Rock fragments	0.00
		Sodium content	0.78			Sodium content	0.78
		Too acid	0.88				
102:							
Ohaco family--------	50	Fair		Poor		Poor	
		Low content of organic matter	0.18	Depth to cemented pan	0.00	Rock fragments	0.00
		Droughty	0.29			Depth to cemented pan	0.90
		Depth to cemented pan	0.90				
Bluebird------------	40	Fair		Good		Poor	
		Droughty	0.35			Rock fragments	0.00
		Low content of organic matter	0.88			Hard to reclaim, rock fragments	0.00

Table 11.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
103:							
Orejano	75	Fair		Fair		Poor	
		Droughty	0.01	Slope	0.50	Hard to reclaim, rock fragments	0.00
		Too sandy	0.40			Rock fragments	0.00
		Low content of organic matter	0.50			Slope	0.00
						Too sandy	0.40
104:							
Pantak family	45	Poor		Poor		Poor	
		Stone content	0.00	Slope	0.00	Slope	0.00
		Droughty	0.00	Stone content	0.00	Depth to bedrock	0.00
		Depth to bedrock	0.00	Depth to bedrock	0.00	Rock fragments	0.00
		Cobble content	0.11	Cobble content	0.00	Sodium content	0.90
		Low content of organic matter	0.12	Shrink-swell	0.78		
		Sodium content	0.90				
Taine	25	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Slope	0.00
		Stone content	0.00	Slope	0.00	Depth to bedrock	0.00
		Depth to bedrock	0.00	Cobble content	0.00	Rock fragments	0.00
		Too clayey	0.08	Stone content	0.00	Too clayey	0.05
		Cobble content	0.12	Low strength	0.00	Sodium content	0.78
		Low content of organic matter	0.12	Shrink-swell	0.06		
		Sodium content	0.78				
Terino family	15	Poor		Poor		Poor	
		Droughty	0.00	Slope	0.00	Rock fragments	0.00
		Depth to cemented pan	0.00	Depth to cemented pan	0.00	Depth to cemented pan	0.00
		Low content of organic matter	0.12	Depth to bedrock	0.00	Slope	0.00
		Cobble content	0.32	Shrink-swell	0.78	Sodium content	0.78
		Sodium content	0.78	Cobble content	0.91	Depth to bedrock	0.90
		Depth to bedrock	0.90				

Table 11.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
105:							
Pastern	50	Poor		Poor		Poor	
		Depth to cemented pan	0.00	Depth to cemented pan	0.00	Rock fragments	0.00
		Droughty	0.00			Depth to cemented pan	0.00
		Low content of organic matter	0.12			Slope	0.37
Strych	40	Poor		Good		Poor	
		Droughty	0.00			Rock fragments	0.00
		Low content of organic matter	0.50			Hard to reclaim, rock fragments	0.00
		Carbonate content	0.84			Slope	0.37
						Carbonate content	0.84
106:							
Peachsprings	75	Fair		Good		Poor	
		Low content of organic matter	0.12			Rock fragments	0.00
		Carbonate content	0.32			Carbonate content	0.32
						Slope	0.96
Havasupai	20	Poor		Fair		Poor	
		Droughty	0.00	Slope	0.68	Slope	0.00
		Carbonate content	0.08			Rock fragments	0.00
		Low content of organic matter	0.12			Carbonate content	0.08
107:							
Pearce	80	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Rock fragments	0.00
		Stone content	0.00	Stone content	0.00	Depth to bedrock	0.00
		Depth to bedrock	0.00	Cobble content	0.13	Carbonate content	0.12
		Carbonate content	0.12			Slope	0.96
		Low content of organic matter	0.88				
		Cobble content	0.92				

Table 11.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
108:							
Pearce	50	Poor		Poor		Poor	
		Depth to bedrock	0.00	Slope	0.00	Rock fragments	0.00
		Droughty	0.00	Depth to bedrock	0.00	Depth to bedrock	0.00
		Carbonate content	0.16	Stone content	0.92	Slope	0.00
		Low content of organic matter	0.50			Carbonate content	0.16
		Stone content	0.92				
Detrital	25	Poor		Poor		Poor	
		Stone content	0.00	Stone content	0.00	Rock fragments	0.00
		Cobble content	0.00	Slope	0.00	Hard to reclaim, rock fragments	0.00
		Droughty	0.25	Cobble content	0.00	Slope	0.00
		Carbonate content	0.80			Carbonate content	0.80
		Low content of organic matter	0.88				
Rock outcrop	10	Not rated		Not rated		Not rated	
109:							
Pearce	70	Poor		Poor		Poor	
		Droughty	0.00	Slope	0.00	Slope	0.00
		Depth to bedrock	0.00	Depth to bedrock	0.00	Depth to bedrock	0.00
		Low content of organic matter	0.50			Rock fragments	0.00
		Carbonate content	0.61			Carbonate content	0.61
Rock outcrop	15	Not rated		Not rated		Not rated	
110:							
Pedregosa family	50	Poor		Poor		Poor	
		Depth to cemented pan	0.00	Depth to cemented pan	0.00	Rock fragments	0.00
		Droughty	0.00	Cobble content	0.55	Depth to cemented pan	0.00
		Low content of organic matter	0.12			Sodium content	0.78
		Sodium content	0.78			Carbonate content	0.92
		Carbonate content	0.92				

Table 11.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
110:							
Tombstone family----	40	Poor		Fair		Poor	
		Carbonate content	0.00	Depth to cemented pan	0.58	Rock fragments	0.00
		Low content of organic matter	0.12			Carbonate content	0.68
		Droughty	0.16			Sodium content	0.78
		Sodium content	0.78				
111:							
Pidineen family-----	65	Poor		Poor		Poor	
		Droughty	0.00	Depth to cemented pan	0.00	Rock fragments	0.00
		Depth to cemented pan	0.00			Depth to cemented pan	0.00
		Carbonate content	0.80				
Tricon family-------	15	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Depth to cemented pan	0.01	Depth to cemented pan	0.00	Depth to cemented pan	0.01
		Droughty	0.13	Shrink-swell	0.12		
112:							
Pits-dumps, mine----	100	Not rated		Not rated		Not rated	
113:							
Playa---------------	100	Not rated		Not rated		Not rated	
114:							
Prieta--------------	75	Poor		Poor		Poor	
		Too clayey	0.00	Depth to bedrock	0.00	Too clayey	0.00
		Depth to bedrock	0.00	Cobble content	0.00	Slope	0.00
		Droughty	0.00	Low strength	0.00	Rock fragments	0.00
		Cobble content	0.06	Shrink-swell	0.12	Depth to bedrock	0.00
		Low content of organic matter	0.50	Slope	0.68		

Table 11.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
114:							
Rock outcrop--------	15	Not rated		Not rated		Not rated	
115:							
Quagwa--------------	85	Fair		Fair		Good	
		Low content of organic matter	0.88	Low strength	0.78		
		Water erosion	0.90				
116:							
Razorback-----------	90	Poor		Poor		Poor	
		Depth to bedrock	0.00	Slope	0.00	Depth to bedrock	0.00
		Droughty	0.00	Depth to bedrock	0.00	Rock fragments	0.00
						Slope	0.00
117:							
Razorback-----------	60	Poor		Poor		Poor	
		Droughty	0.00	Slope	0.00	Rock fragments	0.00
		Depth to bedrock	0.00	Depth to bedrock	0.00	Depth to bedrock	0.00
		Stone content	0.75			Slope	0.00
		Low content of organic matter	0.88				
Rock outcrop--------	20	Not rated		Not rated		Not rated	
118:							
Razorback-----------	65	Poor		Poor		Poor	
		Droughty	0.00	Slope	0.00	Rock fragments	0.00
		Depth to bedrock	0.00	Depth to bedrock	0.00	Depth to bedrock	0.00
		Low content of organic matter	0.88			Slope	0.00
Rock outcrop--------	30	Not rated		Not rated		Not rated	

Table 11.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
119:							
Rift	75	Poor		Poor		Poor	
		Too alkaline	0.00	Low strength	0.00	Sodium content	0.00
		Sodium content	0.00	Shrink-swell	0.87		
		Low content of organic matter	0.88				
		Water erosion	0.90				
120:							
Rift	85	Poor		Fair		Poor	
		Too alkaline	0.00	Shrink-swell	0.87	Sodium content	0.00
		Sodium content	0.00			Salinity	0.00
		Low content of organic matter	0.88				
		Water erosion	0.90				
121:							
Rillino family	50	Fair		Good		Poor	
		Droughty	0.59			Hard to reclaim, rock fragments	0.00
		Carbonate content	0.84			Rock fragments	0.00
		Low content of organic matter	0.88			Carbonate content	0.84
Shamock family	25	Fair		Poor		Fair	
		Droughty	0.04	Depth to cemented pan	0.00	Depth to cemented pan	0.05
		Depth to cemented pan	0.05			Carbonate content	0.92
		Low content of organic matter	0.50			Rock fragments	0.98
		Carbonate content	0.92				
Dutchflat	20	Fair		Fair		Good	
		Low content of organic matter	0.88	Shrink-swell	0.99		

Table 11.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
122:							
Rock outcrop--------	50	Not rated		Not rated		Not rated	
Appleseed----------	40	Poor		Poor		Poor	
		Stone content	0.00	Stone content	0.00	Depth to bedrock	0.00
		Depth to bedrock	0.00	Cobble content	0.00	Rock fragments	0.00
		Droughty	0.00	Slope	0.00	Slope	0.00
		Carbonate content	0.20	Depth to bedrock	0.00	Carbonate content	0.20
		Cobble content	0.32				
		Low content of organic matter	0.88				
123:							
Rock outcrop--------	55	Not rated		Not rated		Not rated	
Pearce-------------	30	Poor		Poor		Poor	
		Depth to bedrock	0.00	Depth to bedrock	0.00	Rock fragments	0.00
		Droughty	0.00	Slope	0.00	Depth to bedrock	0.00
		Carbonate content	0.20	Cobble content	0.00	Slope	0.00
		Low content of organic matter	0.50			Carbonate content	0.32
		Cobble content	0.68				
124:							
Rock outcrop--------	65	Not rated		Not rated		Not rated	
Razorback----------	30	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Slope	0.00
		Depth to bedrock	0.00	Slope	0.00	Rock fragments	0.00
		Low content of organic matter	0.88			Depth to bedrock	0.00
125:							
Rock outcrop--------	50	Not rated		Not rated		Not rated	
Torriorthents-------	40	Not rated		Not rated		Not rated	

Table 11.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
126:							
Rock outcrop--------	50	Not rated		Not rated		Not rated	
Torriorthents-------	40	Not rated		Not rated		Not rated	
127:							
Rock outcrop--------	50	Not rated		Not rated		Not rated	
Valena--------------	25	Poor		Poor		Poor	
		Depth to bedrock	0.00	Depth to bedrock	0.00	Slope	0.00
		Droughty	0.00	Slope	0.50	Depth to bedrock	0.00
Kopie family--------	20	Poor		Poor		Poor	
		Depth to bedrock	0.00	Depth to bedrock	0.00	Rock fragments	0.00
		Droughty	0.00	Slope	0.50	Slope	0.00
						Depth to bedrock	0.00
128:							
Rolie---------------	60	Poor		Poor		Poor	
		Droughty	0.00	Depth to cemented pan	0.00	Rock fragments	0.00
		Depth to cemented pan	0.00			Depth to cemented pan	0.00
		Low content of organic matter	0.88			Slope	0.63
		Carbonate content	0.92			Carbonate content	0.92
Dean----------------	25	Poor		Good		Poor	
		Carbonate content	0.00			Carbonate content	0.00
		Low content of organic matter	0.12			Rock fragments	0.00
						Hard to reclaim, rock fragments	0.50
						Slope	0.63
129:							
Romero--------------	45	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Rock fragments	0.00
		Depth to bedrock	0.00	Slope	0.50	Depth to bedrock	0.00
						Slope	0.00

Table 11.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
129:							
Chiricahua	30	Poor		Poor		Poor	
		Too clayey	0.00	Depth to bedrock	0.00	Too clayey	0.00
		Droughty	0.00	Shrink-swell	0.12	Depth to bedrock	0.00
		Depth to bedrock	0.00	Low strength	0.22	Slope	0.00
		Low content of organic matter	0.88	Slope	0.50	Rock fragments	0.72
Rock outcrop	20	Not rated		Not rated		Not rated	
130:							
Romero	60	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Depth to bedrock	0.00
		Depth to bedrock	0.00	Slope	0.00	Rock fragments	0.00
						Slope	0.00
Lampshire	20	Poor		Poor		Poor	
		Depth to bedrock	0.00	Slope	0.00	Depth to bedrock	0.00
		Droughty	0.00	Depth to bedrock	0.00	Rock fragments	0.00
						Slope	0.00
Rock outcrop	15	Not rated		Not rated		Not rated	
131:							
Rositas	80	Poor		Fair		Poor	
		Wind erosion	0.00	Slope	0.68	Too sandy	0.00
		Too sandy	0.00			Slope	0.00
		Low content of organic matter	0.12				
		Droughty	0.35				
132:							
Shortbread	85	Poor		Good		Fair	
		Wind erosion	0.00			Too sandy	0.47
		Too sandy	0.47				
		Droughty	0.85				
		Low content of organic matter	0.88				

Table 11.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
133:							
Shortbread----------	40	Poor		Good		Fair	
		Wind erosion	0.00			Too sandy	0.47
		Too sandy	0.47			Rock fragments	0.98
		Droughty	0.84				
		Low content of organic matter	0.88				
Kurstan family------	30	Poor		Poor		Fair	
		Too alkaline	0.00	Low strength	0.00	Carbonate content	0.99
		Low content of organic matter	0.50	Shrink-swell	0.99		
		Carbonate content	0.99				
Dusty---------------	20	Poor		Poor		Fair	
		Sodium content	0.00	Low strength	0.00	Salinity	0.88
		Too alkaline	0.00	Shrink-swell	0.90	Carbonate content	0.99
		Low content of organic matter	0.50				
		Carbonate content	0.92				
		Water erosion	0.99				
134:							
Skelon family-------	35	Poor		Poor		Poor	
		Droughty	0.00	Depth to cemented pan	0.00	Rock fragments	0.00
		Depth to cemented pan	0.10	Slope	0.92	Slope	0.00
		Carbonate content	0.99			Depth to cemented pan	0.10
Greyeagle family----	30	Poor		Poor		Poor	
		Depth to cemented pan	0.00	Depth to cemented pan	0.00	Rock fragments	0.00
		Droughty	0.00			Depth to cemented pan	0.00
		Low content of organic matter	0.88				

Table 11.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
134:							
Detrital	20	Fair		Fair		Poor	
		Droughty	0.09	Slope	0.92	Hard to reclaim, rock fragments	0.00
		Low content of organic matter	0.50			Slope	0.00
						Rock fragments	0.00
135:							
Skelon family	60	Poor		Poor		Poor	
		Droughty	0.00	Depth to cemented pan	0.00	Rock fragments	0.00
		Depth to cemented pan	0.29			Depth to cemented pan	0.29
		Low content of organic matter	0.88				
Pinaleno family	30	Fair		Good		Poor	
		Droughty	0.32			Rock fragments	0.00
		Low content of organic matter	0.50			Hard to reclaim, rock fragments	0.00
		Carbonate content	0.80			Carbonate content	0.80
136:							
Storybook	80	Poor		Good		Poor	
		Too alkaline	0.00			Hard to reclaim, rock fragments	0.00
		Low content of organic matter	0.05			Rock fragments	0.00
		Droughty	0.47				
137:							
Stronghold family	45	Poor		Good		Fair	
		Too alkaline	0.00			Sodium content	0.90
		Low content of organic matter	0.12			Carbonate content	0.92
		Sodium content	0.90			Slope	0.96
		Carbonate content	0.92				

Table 11.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
137:							
McAllister family---	35	Poor		Good		Poor	
		Too alkaline	0.00			Hard to reclaim, rock fragments	0.00
		Low content of organic matter	0.12			Rock fragments	0.00
		Droughty	0.67			Sodium content	0.90
		Carbonate content	0.84			Slope	0.96
		Sodium content	0.90				
138:							
Sunrock----------	90	Poor		Poor		Poor	
		Depth to bedrock	0.00	Slope	0.00	Depth to bedrock	0.00
		Droughty	0.00	Depth to bedrock	0.00	Slope	0.00
		Low content of organic matter	0.50			Rock fragments	0.00
139:							
Sunrock----------	70	Poor		Poor		Poor	
		Depth to bedrock	0.00	Slope	0.00	Slope	0.00
		Droughty	0.00	Stone content	0.00	Rock fragments	0.00
		Stone content	0.00	Depth to bedrock	0.00	Depth to bedrock	0.00
		Low content of organic matter	0.50	Cobble content	0.95		
Rock outcrop--------	20	Not rated		Not rated		Not rated	
140:							
Superstition family-	40	Poor		Poor		Poor	
		Too sandy	0.00	Slope	0.00	Too sandy	0.00
		Droughty	0.44			Slope	0.00
		Low content of organic matter	0.50				
		Carbonate content	0.80				

Table 11.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
140:							
Carrwash	35	Poor		Poor		Poor	
		Droughty	0.00	Slope	0.00	Rock fragments	0.00
		Too sandy	0.00			Hard to reclaim, rock fragments	0.00
		Low content of organic matter	0.12			Slope	0.00
						Too sandy	0.00
141:							
Taine	90	Poor		Poor		Poor	
		Depth to bedrock	0.00	Depth to bedrock	0.00	Slope	0.00
		Droughty	0.00	Cobble content	0.00	Rock fragments	0.00
		Too clayey	0.00	Slope	0.02	Too clayey	0.00
		Cobble content	0.00	Stone content	0.79	Depth to bedrock	0.00
		Stone content	0.79	Shrink-swell	0.87		
142:							
Thimble	85	Poor		Poor		Poor	
		Too clayey	0.00	Depth to bedrock	0.00	Depth to bedrock	0.00
		Stone content	0.00	Slope	0.00	Rock fragments	0.00
		Depth to bedrock	0.00	Stone content	0.20	Too clayey	0.00
		Droughty	0.00	Cobble content	0.68	Slope	0.00
		Cobble content	0.68				
Rock outcrop	10	Not rated		Not rated		Not rated	
143:							
Tombstone family	50	Fair		Fair		Poor	
		Droughty	0.04	Cobble content	0.18	Rock fragments	0.00
		Low content of organic matter	0.12			Hard to reclaim, rock fragments	0.00
		Sodium content	0.78			Sodium content	0.78
		Cobble content	0.86			Slope	0.84
		Carbonate content	0.99			Carbonate content	0.99

Table 11.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
143:							
Caralampi family----	20	Fair		Fair		Poor	
		Low content of organic matter	0.12	Cobble content	0.99	Hard to reclaim, rock fragments	0.00
		Droughty	0.58	Shrink-swell	0.99	Rock fragments	0.00
		Sodium content	0.78			Too clayey	0.57
		Too clayey	0.98			Sodium content	0.78
		Stone content	0.98			Slope	0.84
Nolam family--------	20	Fair		Good		Poor	
		Droughty	0.05			Rock fragments	0.00
		Low content of organic matter	0.12			Hard to reclaim, rock fragments	0.00
		Carbonate content	0.68			Sodium content	0.78
		Sodium content	0.78			Slope	0.84
						Carbonate content	0.92
144:							
Torriorthents-------	80	Not rated		Not rated		Not rated	
145:							
Torriorthents-------	50	Not rated		Not rated		Not rated	
Haplocambids--------	35	Not rated		Not rated		Not rated	
146:							
Torriorthents-------	70	Not rated		Not rated		Not rated	
Rock outcrop--------	15	Not rated		Not rated		Not rated	
147:							
Tovar---------------	50	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Slope	0.00
		Depth to bedrock	0.46	Depth to bedrock	0.00	Too clayey	0.00
		Droughty	0.67	Shrink-swell	0.12	Depth to bedrock	0.46
		Low content of organic matter	0.88	Slope	0.98		

Table 11.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
147:							
Grandwash	40	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Too clayey	0.00
		Too clayey	0.00	Cobble content	0.00	Depth to bedrock	0.00
		Depth to bedrock	0.00	Stone content	0.50	Slope	0.00
		Cobble content	0.08	Low strength	0.78	Rock fragments	0.00
		Stone content	0.50	Slope	0.98		
148:							
Truxton	75	Fair		Good		Good	
		Water erosion	0.90				
Truxton, frequently flooded	15	Fair		Good		Good	
		Water erosion	0.90				
149:							
Tumarion	85	Poor		Poor		Poor	
		Droughty	0.00	Depth to cemented pan	0.00	Depth to bedrock	0.00
		Depth to cemented pan	0.00	Depth to bedrock	0.00	Depth to cemented pan	0.00
		Depth to bedrock	0.00			Rock fragments	0.00
		Carbonate content	0.46			Carbonate content	0.46
		Low content of organic matter	0.88			Slope	0.96
150:							
Tumarion	70	Poor		Poor		Poor	
		Depth to cemented pan	0.00	Depth to cemented pan	0.00	Slope	0.00
		Droughty	0.00	Depth to bedrock	0.00	Depth to cemented pan	0.00
		Depth to bedrock	0.21	Cobble content	0.02	Rock fragments	0.00
		Cobble content	0.23	Slope	0.18	Depth to bedrock	0.21
		Low content of organic matter	0.88			Carbonate content	0.92
		Carbonate content	0.92				

Table 11.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
150:							
Nickel family-------	15	Fair		Poor		Poor	
		Low content of organic matter	0.50	Cobble content	0.00	Slope	0.00
		Cobble content	0.52	Slope	0.18	Rock fragments	0.00
		Carbonate content	0.68			Hard to reclaim, rock fragments	0.00
		Droughty	0.86				
151:							
Tumarion----------	75	Poor		Poor		Poor	
		Droughty	0.00	Depth to cemented pan	0.00	Slope	0.00
		Depth to cemented pan	0.00	Depth to bedrock	0.00	Depth to cemented pan	0.00
		Depth to bedrock	0.00	Slope	0.08	Rock fragments	0.00
		Low content of organic matter	0.88			Depth to bedrock	0.00
Nickel family-------	15	Fair		Poor		Poor	
		Low content of organic matter	0.50	Cobble content	0.00	Hard to reclaim, rock fragments	0.00
		Cobble content	0.50	Slope	0.08	Slope	0.00
		Carbonate content	0.68	Stone content	0.99	Rock fragments	0.00
		Droughty	0.86				
152:							
Tyro----------	90	Poor		Poor		Poor	
		Droughty	0.00	Depth to cemented pan	0.00	Slope	0.00
		Depth to cemented pan	0.00	Depth to bedrock	0.00	Depth to cemented pan	0.00
		Depth to bedrock	0.00	Slope	0.68	Depth to bedrock	0.00
		Stone content	0.12	Stone content	0.93	Rock fragments	0.00
		Low content of organic matter	0.50			Carbonate content	0.92
		Carbonate content	0.92				

Table 11.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
153:							
Tyro	90	Poor		Poor		Poor	
		Depth to cemented pan	0.00	Depth to cemented pan	0.00	Slope	0.00
		Depth to bedrock	0.00	Depth to bedrock	0.00	Depth to cemented pan	0.00
		Droughty	0.00	Slope	0.92	Depth to bedrock	0.00
		Low content of organic matter	0.50			Rock fragments	0.00
		Carbonate content	0.68				
154:							
Tyro	55	Poor		Poor		Poor	
		Depth to cemented pan	0.00	Depth to cemented pan	0.00	Depth to cemented pan	0.00
		Droughty	0.00			Rock fragments	0.00
		Carbonate content	0.00			Carbonate content	0.95
		Low content of organic matter	0.50				
Sunrock	35	Poor		Poor		Poor	
		Depth to bedrock	0.00	Depth to bedrock	0.00	Rock fragments	0.00
		Droughty	0.00	Stone content	0.58	Depth to bedrock	0.00
		Low content of organic matter	0.50				
		Stone content	0.58				
155:							
Urban land	60	Not rated		Not rated		Not rated	
Calvista family	25	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Rock fragments	0.00
		Depth to bedrock	0.00			Depth to bedrock	0.00
		Carbonate content	0.80			Carbonate content	0.80
		Low content of organic matter	0.88				

Table 11.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
156:							
Ustorthents	60	Not rated		Not rated		Not rated	
Rock outcrop	30	Not rated		Not rated		Not rated	
157:							
Valena	70	Poor		Poor		Poor	
		Depth to bedrock	0.00	Depth to bedrock	0.00	Depth to bedrock	0.00
		Droughty	0.00				
Carri	20	Fair		Poor		Fair	
		Droughty	0.20	Depth to bedrock	0.00	Depth to bedrock	0.29
		Depth to bedrock	0.29				
		Low content of organic matter	0.50				
		Water erosion	0.99				
158:							
Valena	40	Poor		Poor		Poor	
		Depth to bedrock	0.00	Depth to bedrock	0.00	Depth to bedrock	0.00
		Droughty	0.00			Slope	0.16
Rock outcrop	20	Not rated		Not rated		Not rated	
Carri family	15	Good		Good		Fair	
						Slope	0.16
159:							
Vekol family	85	Poor		Fair		Poor	
		Too clayey	0.00	Shrink-swell	0.99	Hard to reclaim, rock fragments	0.00
		Low content of organic matter	0.88			Rock fragments	0.00
		Droughty	0.88			Too clayey	0.00
160:							
Vekol family	80	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Carbonate content	0.80	Shrink-swell	0.12		
		Low content of organic matter	0.88				

Table 11.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
161:							
Vekol family--------	50	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Hard to reclaim, rock fragments	0.00
		Low content of organic matter	0.50	Shrink-swell	0.00	Too clayey	0.00
Whitehills----------	35	Poor		Poor		Poor	
		Droughty	0.00	Depth to cemented pan	0.00	Rock fragments	0.00
		Depth to cemented pan	0.29			Depth to cemented pan	0.29
		Carbonate content	0.80			Too clayey	0.70
		Low content of organic matter	0.88				
		Too clayey	0.98				
162:							
Vock----------	60	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Depth to bedrock	0.00
		Depth to bedrock	0.00	Slope	0.00	Rock fragments	0.00
						Slope	0.00
Elements----------	20	Fair		Poor		Poor	
		Low content of organic matter	0.50	Slope	0.00	Slope	0.00
		Droughty	0.73	Cobble content	0.16	Hard to reclaim, rock fragments	0.00
		Cobble content	0.86			Rock fragments	0.00
Rock outcrop--------	10	Not rated		Not rated		Not rated	
163:							
Vock----------	45	Poor		Poor		Poor	
		Depth to bedrock	0.00	Depth to bedrock	0.00	Rock fragments	0.00
		Droughty	0.00	Slope	0.00	Depth to bedrock	0.00
		Stone content	0.32			Slope	0.00

Table 11.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
163:							
Elements	40	Fair		Poor		Poor	
		Low content of organic matter	0.50	Slope	0.00	Hard to reclaim, rock fragments	0.00
		Droughty	0.73	Cobble content	0.16	Rock fragments	0.00
		Cobble content	0.86			Slope	0.00
Rock outcrop	10	Not rated		Not rated		Not rated	
164:							
Water	100	Not rated		Not rated		Not rated	
165:							
White House	85	Poor		Fair		Poor	
		Too clayey	0.00	Shrink-swell	0.91	Too clayey	0.00
						Hard to reclaim, rock fragments	0.50
						Slope	0.96
						Rock fragments	0.97
166:							
White House family	85	Fair		Fair		Poor	
		Droughty	0.86	Shrink-swell	0.81	Rock fragments	0.00
						Hard to reclaim, rock fragments	0.50
						Slope	0.96
167:							
Whitehills	80	Poor		Poor		Poor	
		Droughty	0.00	Depth to cemented pan	0.00	Rock fragments	0.00
		Depth to cemented pan	0.29			Depth to cemented pan	0.29
		Carbonate content	0.80			Too clayey	0.70
		Low content of organic matter	0.88				
		Too clayey	0.98				

Table 11.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
168:							
Wodomont	50	Poor		Poor		Poor	
		Droughty	0.00	Cobble content	0.00	Slope	0.00
		Depth to bedrock	0.00	Depth to bedrock	0.00	Depth to bedrock	0.00
		Carbonate content	0.08	Slope	0.08	Rock fragments	0.00
		Cobble content	0.61			Carbonate content	0.08
Kydestea	25	Poor		Poor		Poor	
		Cobble content	0.00	Depth to bedrock	0.00	Rock fragments	0.00
		Depth to bedrock	0.00	Cobble content	0.00	Slope	0.00
		Droughty	0.00	Slope	0.08	Depth to bedrock	0.00
		Low content of organic matter	0.88	Shrink-swell	0.94		
169:							
Wodomont	45	Poor		Poor		Poor	
		Depth to bedrock	0.00	Depth to bedrock	0.00	Slope	0.00
		Droughty	0.00	Cobble content	0.00	Depth to bedrock	0.00
		Carbonate content	0.08	Slope	0.00	Rock fragments	0.00
		Cobble content	0.61			Carbonate content	0.08
Metuck	30	Poor		Poor		Poor	
		Depth to bedrock	0.00	Slope	0.00	Depth to bedrock	0.00
		Droughty	0.00	Depth to bedrock	0.00	Slope	0.00
		Low content of organic matter	0.88	Cobble content	0.22	Rock fragments	0.00
		Cobble content	0.96			Carbonate content	0.99
		Carbonate content	0.99				
Rock outcrop	15	Not rated		Not rated		Not rated	
170:							
Wodomont	70	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Rock fragments	0.00
		Depth to bedrock	0.00	Slope	0.08	Depth to bedrock	0.00
		Low content of organic matter	0.88	Cobble content	0.79	Slope	0.00
		Carbonate content	0.92			Carbonate content	0.92

Table 11.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
170:							
Rock outcrop--------	20	Not rated		Not rated		Not rated	
171:							
Yahana family-------	85	Poor		Fair		Poor	
		Too alkaline	0.00	Shrink-swell	0.77	Salinity	0.00
		Sodium content	0.00			Sodium content	0.00
		Salinity	0.00				
		Low content of organic matter	0.88				
		Water erosion	0.90				
172:							
Zibate family-------	75	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Slope	0.00
		Depth to bedrock	0.00	Slope	0.50	Depth to bedrock	0.00
		Low content of organic matter	0.05			Rock fragments	0.00
		Too clayey	0.88			Too clayey	0.48
173:							
Zibate family-------	80	Poor		Poor		Poor	
		Depth to bedrock	0.00	Depth to bedrock	0.00	Slope	0.00
		Droughty	0.00	Slope	0.00	Rock fragments	0.00
		Stone content	0.00	Stone content	0.00	Depth to bedrock	0.00
		Low content of organic matter	0.88	Low strength	0.00		
				Cobble content	0.50		
				Shrink-swell	0.87		
174:							
Zibate family-------	45	Poor		Poor		Poor	
		Too clayey	0.00	Depth to bedrock	0.00	Rock fragments	0.00
		Depth to bedrock	0.00	Cobble content	0.00	Depth to bedrock	0.00
		Droughty	0.00	Slope	0.68	Slope	0.00
		Cobble content	0.40			Too clayey	0.00
		Low content of organic matter	0.50				

Table 11.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
174:							
Dutchflat	25	Fair		Good		Poor	
		Low content of organic matter	0.50			Rock fragments	0.00
		Droughty	0.99			Hard to reclaim, rock fragments	0.00
Tumarion	15	Poor		Poor		Poor	
		Depth to cemented pan	0.00	Depth to bedrock	0.00	Rock fragments	0.00
		Droughty	0.00	Depth to cemented pan	0.00	Depth to cemented pan	0.00
		Depth to bedrock	0.21	Cobble content	0.03	Depth to bedrock	0.21
		Cobble content	0.26			Slope	0.37
		Low content of organic matter	0.88			Carbonate content	0.92
		Carbonate content	0.92				

Table 12.--Ponds and Embankments

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1:							
Alko family	85	Very limited		Very limited		Very limited	
		Seepage	1.00	Thin layer	1.00	No ground water	1.00
		Depth to cemented pan	1.00	Seepage	0.62		
		Slope	0.01				
2:							
Alko family	85	Very limited		Very limited		Very limited	
		Seepage	1.00	Thin layer	1.00	No ground water	1.00
		Depth to cemented pan	1.00	Seepage	0.62		
3:							
Appleseed	45	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
		Slope	0.10	Content of large stones	0.95		
				Seepage	0.04		
Huevi	40	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.18	No ground water	1.00
		Slope	0.10				
4:							
Aridic Argiustolls	60	Somewhat limited		Not rated		Not rated	
		Slope	0.12				
Lithic Haplustolls	30	Very limited		Not rated		Not rated	
		Depth to bedrock	1.00				
		Slope	0.12				

Table 12.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
5:							
Arizo	40	Very limited Seepage	1.00	Somewhat limited Seepage	0.70	Very limited No ground water	1.00
Detrital	30	Very limited Seepage	1.00	Somewhat limited Seepage	0.62	Very limited No ground water	1.00
Nickel	20	Very limited Seepage	1.00	Somewhat limited Seepage	0.62	Very limited No ground water	1.00
6:							
Arizo	40	Very limited Seepage	1.00	Somewhat limited Seepage	0.62	Very limited No ground water	1.00
Franconia	30	Very limited Seepage	1.00	Somewhat limited Seepage	0.10	Very limited No ground water	1.00
Riverwash	20	Not limited		Not rated		Not rated	
7:							
Arizo	55	Very limited Seepage	1.00	Somewhat limited Seepage	0.62	Very limited No ground water	1.00
Riverwash	35	Not limited		Not rated		Not rated	
8:							
Arizo	50	Very limited Seepage	1.00	Somewhat limited Seepage	0.70	Very limited No ground water	1.00
Riverwash	25	Not limited		Not rated		Not rated	
9:							
Arizo	60	Very limited Seepage	1.00	Somewhat limited Seepage	0.86	Very limited No ground water	1.00
Riverwash	30	Not limited		Not rated		Not rated	

Table 12.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
10:							
Arizo	55	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.86	No ground water	1.00
				Content of large stones	0.20		
Riverwash	35	Not limited		Not rated		Not rated	
11:							
Azure	45	Somewhat limited		Very limited		Very limited	
		Depth to bedrock	0.91	Thin layer	1.00	No ground water	1.00
		Slope	0.08	Seepage	0.18		
Detrital	30	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.12	No ground water	1.00
		Slope	0.08				
Antares	20	Somewhat limited		Very limited		Very limited	
		Depth to bedrock	0.80	Thin layer	1.00	No ground water	1.00
		Slope	0.08	Seepage	0.12		
12:							
Birdsbeak	90	Somewhat limited		Very limited		Very limited	
		Depth to bedrock	0.94	Thin layer	1.00	No ground water	1.00
		Slope	0.21	Seepage	0.18		
13:							
Bluebird	50	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.25	No ground water	1.00
Detrital	40	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.12	No ground water	1.00

Table 12.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
14:							
Bluebird	70	Somewhat limited Seepage	0.70	Not limited		Very limited No ground water	1.00
Lostman	25	Very limited Seepage	1.00	Not limited		Very limited No ground water	1.00
15:							
Carrizo	75	Very limited Seepage	1.00	Somewhat limited Seepage	0.62	Very limited No ground water	1.00
Carrizo, rarely flooded	20	Very limited Seepage	1.00	Somewhat limited Seepage	0.62	Very limited No ground water	1.00
16:							
Carrizo	75	Very limited Seepage	1.00	Somewhat limited Seepage	0.62	Very limited No ground water	1.00
Riverwash	15	Not limited		Not rated		Not rated	
17:							
Carrizo	75	Very limited Seepage	1.00	Somewhat limited Seepage	0.79	Very limited No ground water	1.00
Riverwash	15	Not limited		Not rated		Not rated	
18:							
Chuckawalla	65	Very limited Seepage	1.00	Somewhat limited Salinity Seepage	0.28 0.19	Very limited No ground water	1.00
Riverbend	25	Very limited Seepage	1.00	Somewhat limited Seepage	0.82	Very limited No ground water	1.00
19:							
Circular	45	Very limited Seepage	1.00	Very limited Piping	1.00	Very limited No ground water	1.00

Table 12.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
19:							
Circular	40	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.10	No ground water	1.00
20:							
Circular	50	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Piping	0.22	No ground water	1.00
				Seepage	0.07		
Dusty	30	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Piping	1.00	No ground water	1.00
				Ponding	1.00		
21:							
Cod	90	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.18	No ground water	1.00
22:							
Cordes	45	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.12	No ground water	1.00
Manikan	25	Very limited		Very limited		Very limited	
		Seepage	1.00	Piping	1.00	No ground water	1.00
Riverwash	10	Not rated		Not rated		Not rated	
23:							
Cupel	60	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
		Slope	1.00	Seepage	0.62		
				Content of large stones	0.06		
Rock outcrop	20	Not rated		Not rated		Not rated	

Table 12.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
24:							
Cyclopic	80	Somewhat limited		Very limited		Very limited	
		Depth to cemented pan	0.96	Content of large stones	1.00	No ground water	1.00
				Thin layer	0.96		
25:							
Deluge	50	Somewhat limited		Somewhat limited		Very limited	
		Depth to cemented pan	0.98	Thin layer	0.98	No ground water	1.00
		Depth to bedrock	0.06	Seepage	0.18		
		Seepage	0.03				
Gotchell	17	Very limited		Very limited		Very limited	
		Depth to cemented pan	1.00	Thin layer	1.00	No ground water	1.00
		Depth to bedrock	0.91	Seepage	0.62		
Sunstroke	13	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Thin layer	0.98	No ground water	1.00
		Depth to cemented pan	0.98	Seepage	0.62		
		Depth to bedrock	0.26				
26:							
Detrital	45	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.12	No ground water	1.00
Bluebird	35	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.62	No ground water	1.00
27:							
Detrital	55	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.56	No ground water	1.00

Table 12.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
27:							
Nealy	35	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Thin layer	0.77	No ground water	1.00
		Depth to cemented pan	0.77	Seepage	0.64		
28:							
Detrital	60	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.12	No ground water	1.00
Nickel	35	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Thin layer	0.91	No ground water	1.00
				Seepage	0.69		
29:							
Detrital	60	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.62	No ground water	1.00
Nickel family	25	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Thin layer	0.37	No ground water	1.00
		Depth to cemented pan	0.37	Seepage	0.18		
30:							
Detrital	50	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.12	No ground water	1.00
Skelon family	30	Very limited		Very limited		Very limited	
		Seepage	1.00	Thin layer	0.99	No ground water	1.00
		Depth to cemented pan	0.99	Seepage	0.19		
31:							
Dusty	70	Very limited		Very limited		Very limited	
		Seepage	1.00	Piping	1.00	No ground water	1.00
				Ponding	1.00		
				Seepage	0.03		

Table 12.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
31:							
Kurstan family------	15	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.79	No ground water	1.00
32:							
Dutchflat-----------	80	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.05	No ground water	1.00
33:							
Dye-----------------	50	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
		Slope	0.04	Hard to pack	0.53		
				Seepage	0.18		
Tovar---------------	20	Somewhat limited		Somewhat limited		Very limited	
		Depth to bedrock	0.69	Thin layer	0.70	No ground water	1.00
		Slope	0.04	Hard to pack	0.26		
Rock outcrop--------	15	Not rated		Not rated		Not rated	
34:							
Faraway-------------	70	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
		Slope	1.00				
Rock outcrop--------	20	Not rated		Not rated		Not rated	
35:							
Fig-----------------	50	Very limited		Very limited		Very limited	
		Slope	1.00	Thin layer	1.00	No ground water	1.00
		Depth to bedrock	0.87	Seepage	0.18		
Blind---------------	25	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Content of large stones	0.03	No ground water	1.00
		Seepage	0.70				

Table 12.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
35:							
Nodman	15	Very limited		Very limited		Very limited	
		Slope	1.00	Thin layer	1.00	No ground water	1.00
		Depth to bedrock	0.84	Seepage	0.62		
36:							
Filaree	80	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.04	No ground water	1.00
37:							
Filaree	60	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.02	No ground water	1.00
Dutchflat	30	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.25	No ground water	1.00
38:							
Garnet	50	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.79	No ground water	1.00
Dutchflat	40	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.25	No ground water	1.00
39:							
Goesling family	75	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.04	Piping	0.74	No ground water	1.00
40:							
Goldroad	75	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
		Slope	0.28	Seepage	0.12		
Rock outcrop	10	Not rated		Not rated		Not rated	

Table 12.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
41:							
Goldroad	75	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
		Slope	1.00	Seepage	0.18		
				Content of large stones	0.03		
Rock outcrop	20	Not rated		Not rated		Not rated	
42:							
Gonzales	60	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
		Slope	0.28				
Rock outcrop	25	Not rated		Not rated		Not rated	
43:							
Goodsprings family	75	Very limited		Very limited		Very limited	
		Seepage	1.00	Thin layer	1.00	No ground water	1.00
		Depth to cemented pan	1.00	Seepage	0.62		
		Slope	0.21				
44:							
Gotchell	50	Very limited		Very limited		Very limited	
		Depth to cemented pan	1.00	Thin layer	1.00	No ground water	1.00
		Depth to bedrock	0.91	Seepage	0.62		
		Slope	0.15				
Sunstroke	30	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Thin layer	0.98	No ground water	1.00
		Depth to cemented pan	0.98	Seepage	0.62		
		Depth to bedrock	0.26				
		Slope	0.15				

Table 12.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
45:							
Graham	60	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
				Piping	0.11		
Arivaca	25	Somewhat limited		Somewhat limited		Very limited	
		Depth to bedrock	0.85	Thin layer	0.85	No ground water	1.00
		Seepage	0.05				
46:							
Graham	60	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
		Slope	0.28	Piping	0.11		
Rock outcrop	20	Not rated		Not rated		Not rated	
47:							
Grandwash	85	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Content of large stones	1.00	No ground water	1.00
		Slope	0.02	Thin layer	1.00		
				Seepage	0.56		
48:							
Greyeagle family	80	Very limited		Very limited		Very limited	
		Depth to cemented pan	1.00	Content of large stones	1.00	No ground water	1.00
		Slope	0.41	Thin layer	1.00		
				Seepage	0.04		
49:							
Greyeagle family	75	Very limited		Very limited		Very limited	
		Depth to cemented pan	1.00	Thin layer	1.00	No ground water	1.00
		Slope	0.99	Seepage	0.62		

Table 12.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
50:							
Greyeagle family----	70	Very limited		Very limited		Very limited	
		Depth to cemented pan	1.00	Thin layer	1.00	No ground water	1.00
				Seepage	0.30		
Cyclopic----------	20	Somewhat limited		Somewhat limited		Very limited	
		Depth to cemented pan	0.95	Thin layer	0.95	No ground water	1.00
				Seepage	0.62		
				Content of large stones	0.05		
51:							
Greyeagle family----	70	Very limited		Very limited		Very limited	
		Depth to cemented pan	1.00	Thin layer	1.00	No ground water	1.00
				Seepage	0.19		
Skelon family-------	20	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Thin layer	0.98	No ground water	1.00
		Depth to cemented pan	0.98	Seepage	0.19		
52:							
Greyeagle family----	60	Very limited		Very limited		Very limited	
		Depth to cemented pan	1.00	Thin layer	1.00	No ground water	1.00
		Slope	0.03	Seepage	0.62		
Skelon family-------	20	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Thin layer	0.98	No ground water	1.00
		Depth to cemented pan	0.98	Seepage	0.19		
		Slope	0.03				

Table 12.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
53:							
Gypsids	90	Somewhat limited		Not rated		Not rated	
		Slope	0.36				
		Depth to bedrock	0.34				
54:							
Haplogypsids, eroded	70	Very limited		Not rated		Not rated	
		Depth to bedrock	1.00				
		Slope	1.00				
Haplogypsids	30	Very limited		Not rated		Not rated	
		Slope	1.00				
55:							
Hassell family	50	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.12	Thin layer	0.85	No ground water	1.00
		Depth to bedrock	0.11	Piping	0.01		
		Seepage	0.03				
Lampshire	25	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
		Slope	0.28	Seepage	0.12		
Rock outcrop	20	Not rated		Not rated		Not rated	
56:							
Hindu	60	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
		Slope	0.28	Seepage	0.62		
				Content of large stones	0.04		
Rock outcrop	20	Not rated		Not rated		Not rated	
57:							
Hooks family	45	Very limited		Very limited		Very limited	
		Seepage	1.00	Piping	1.00	No ground water	1.00

Table 12.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
57:							
Courtland family----	40	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Thin layer	0.29	No ground water	1.00
		Depth to bedrock	0.29	Piping	0.22		
				Seepage	0.04		
58:							
Hosta family--------	75	Not limited		Somewhat limited		Very limited	
				Hard to pack	0.50	No ground water	1.00
59:							
House Mountain family----------	40	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
		Slope	0.21	Seepage	0.02		
Calvista family-----	30	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
		Slope	0.21	Seepage	0.06		
Rock outcrop--------	20	Not rated		Not rated		Not rated	
60:							
Huevi----------	90	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.62	No ground water	1.00
61:							
Huevi----------	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.19	No ground water	1.00
		Slope	0.21				
62:							
Huevi----------	80	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.50	No ground water	1.00
		Slope	0.28				

Table 12.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
63:							
Huevi	65	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.25	No ground water	1.00
		Slope	0.01	Piping	0.22		
Carrizo	15	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.62	No ground water	1.00
64:							
Huevi	65	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.69	No ground water	1.00
		Slope	0.08				
Carrwash	20	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.79	No ground water	1.00
		Slope	0.85				
65:							
Huevi	50	Very limited		Very limited		Very limited	
		Seepage	1.00	Content of large stones	1.00	No ground water	1.00
		Slope	1.00	Seepage	0.25		
Sunrock	30	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
		Slope	0.79	Seepage	0.30		
Rock outcrop	10	Not rated		Not rated		Not rated	
66:							
Hulda	75	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
		Slope	0.94	Seepage	0.62		
67:							
Hulda	70	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
		Slope	0.94	Seepage	0.19		

Table 12.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
67:							
Rock outcrop--------	20	Not rated		Not rated		Not rated	
68:							
Hulda---------------	50	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
		Slope	0.72	Content of large stones	1.00		
				Seepage	0.06		
Rock outcrop--------	35	Not rated		Not rated		Not rated	
69:							
Ireteba family------	45	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.19	No ground water	1.00
Arizo---------------	30	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.62	No ground water	1.00
70:							
Jagerson------------	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.55	No ground water	1.00
71:							
Jagerson------------	45	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.55	No ground water	1.00
Nealy---------------	40	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Thin layer	0.77	No ground water	1.00
		Depth to cemented pan	0.77	Seepage	0.64		
72:							
Kingtut-------------	45	Very limited		Very limited		Very limited	
		Depth to cemented pan	1.00	Thin layer	1.00	No ground water	1.00
		Depth to bedrock	0.77				

Table 12.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
72:							
Promontory	35	Very limited		Very limited		Very limited	
		Depth to cemented pan	1.00	Thin layer	1.00	No ground water	1.00
		Depth to bedrock	1.00				
73:							
Kinley	75	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.12	No ground water	1.00
		Slope	0.28				
74:							
Kurstan family	60	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Salinity	0.30	No ground water	1.00
				Seepage	0.03		
Dusty	30	Very limited		Very limited		Very limited	
		Seepage	1.00	Piping	1.00	No ground water	1.00
				Ponding	1.00		
				Seepage	0.03		
75:							
Lampshire	65	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
		Slope	0.88	Seepage	0.02		
Rock outcrop	20	Not rated		Not rated		Not rated	
76:							
Lostman	80	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.02	No ground water	1.00
77:							
Lostman	80	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.02	No ground water	1.00

Table 12.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
78:							
Luzena	45	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
		Slope	0.01	Seepage	0.62		
				Hard to pack	0.42		
Thunderbird	30	Somewhat limited		Somewhat limited		Very limited	
		Depth to bedrock	0.85	Thin layer	0.85	No ground water	1.00
		Slope	0.01	Piping	0.01		
79:							
Lykorly	85	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Piping	0.19	No ground water	1.00
80:							
Lykorly	75	Not limited		Very limited		Very limited	
				Piping	1.00	No ground water	1.00
81:							
Manikan	60	Very limited		Very limited		Very limited	
		Seepage	1.00	Piping	1.00	No ground water	1.00
Nuffel	25	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Piping	0.01	No ground water	1.00
82:							
Mathis family	55	Very limited		Very limited		Very limited	
		Seepage	1.00	Content of large stones	1.00	No ground water	1.00
				Seepage	0.42		
Riverwash	35	Not limited		Not rated		Not rated	
83:							
Mayswell	75	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
		Slope	0.21	Content of large stones	0.23		
				Hard to pack	0.01		

Table 12.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
83:							
Rock outcrop--------	15	Not rated		Not rated		Not rated	
84:							
Meadview----------	80	Very limited		Very limited		Very limited	
		Seepage	1.00	Content of large stones	0.99	No ground water	1.00
		Slope	0.21	Seepage	0.50		
85:							
Meadview----------	60	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.61	No ground water	1.00
		Slope	0.03	Content of large stones	0.18		
Yurm family---------	30	Very limited		Very limited		Very limited	
		Depth to cemented pan	1.00	Thin layer	1.00	No ground water	1.00
				Seepage	0.19		
86:							
Meriwhitica---------	65	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
		Slope	0.28	Seepage	0.12		
Rock outcrop--------	15	Not rated		Not rated		Not rated	
87:							
Mextank----------	80	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.69	No ground water	1.00
88:							
Milkweed----------	50	Very limited		Very limited		Very limited	
		Depth to cemented pan	1.00	Thin layer	1.00	No ground water	1.00
		Slope	0.01	Seepage	0.19		

Table 12.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
88:							
Quartermaster-------	30	Somewhat limited		Somewhat limited		Very limited	
		Depth to cemented pan	0.85	Thin layer	0.85	No ground water	1.00
		Seepage	0.70				
Buckndoe------------	15	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Thin layer	0.11	No ground water	1.00
		Depth to cemented pan	0.12	Seepage	0.01		
		Slope	0.01				
89:							
Milok---------------	55	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.02	No ground water	1.00
Pastern-------------	35	Very limited		Very limited		Very limited	
		Seepage	1.00	Thin layer	1.00	No ground water	1.00
		Depth to cemented pan	1.00	Seepage	0.04		
90:							
Mutang--------------	45	Somewhat limited		Very limited		Very limited	
		Depth to bedrock	0.99	Thin layer	1.00	No ground water	1.00
				Hard to pack	0.08		
Dutchflat-----------	40	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.05	No ground water	1.00
91:							
Mutang--------------	55	Somewhat limited		Very limited		Very limited	
		Depth to bedrock	0.99	Thin layer	1.00	No ground water	1.00
		Slope	0.06	Hard to pack	0.08		
Wikieup-------------	25	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
		Slope	0.06				

Table 12.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
91:							
Rock outcrop	15	Not rated		Not rated		Not rated	
92:							
Nealy	60	Somewhat limited		Very limited		Very limited	
		Depth to cemented pan	0.99	Piping	1.00	No ground water	1.00
		Seepage	0.70	Thin layer	0.99		
Shamock family	30	Very limited		Very limited		Very limited	
		Seepage	1.00	Piping	1.00	No ground water	1.00
		Depth to cemented pan	0.99	Thin layer	0.99		
93:							
Nealy	40	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Thin layer	0.77	No ground water	1.00
		Depth to cemented pan	0.77	Seepage	0.64		
Skelon family	30	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Thin layer	0.66	No ground water	1.00
		Depth to cemented pan	0.66	Seepage	0.25		
Detrital	25	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.12	No ground water	1.00
94:							
Nickel family	45	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.50	No ground water	1.00
		Slope	0.50				
Bluebird	25	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.62	No ground water	1.00
		Slope	0.50				

Table 12.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
95:							
Nickel	45	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.18	No ground water	1.00
Skelon family	25	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Thin layer	0.70	No ground water	1.00
		Depth to cemented pan	0.70	Seepage	0.62		
Detrital	15	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.12	No ground water	1.00
96:							
Nickel family	35	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.19	No ground water	1.00
		Slope	0.64				
Topawa family	30	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.19	No ground water	1.00
		Slope	0.64				
Eba family	25	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Seepage	0.19	No ground water	1.00
		Slope	0.08				
97:							
Nodman	40	Somewhat limited		Very limited		Very limited	
		Depth to bedrock	0.71	Thin layer	1.00	No ground water	1.00
				Seepage	0.19		
Antares	35	Somewhat limited		Very limited		Very limited	
		Depth to bedrock	0.80	Thin layer	1.00	No ground water	1.00
				Seepage	0.12		
98:							
Nodman	60	Somewhat limited		Very limited		Very limited	
		Depth to bedrock	0.78	Thin layer	1.00	No ground water	1.00
				Piping	0.10		

Table 12.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
98:							
Courtland family----	25	Somewhat limited		Somewhat limited		Very limited	
		Depth to bedrock	0.88	Thin layer	0.88	No ground water	1.00
		Seepage	0.03	Piping	0.32		
99:							
Nodman----------	65	Somewhat limited		Very limited		Very limited	
		Depth to bedrock	0.84	Thin layer	1.00	No ground water	1.00
		Slope	0.50	Piping	0.60		
Rock outcrop--------	20	Not rated		Not rated		Not rated	
100:							
Nodman----------	60	Somewhat limited		Very limited		Very limited	
		Depth to bedrock	0.78	Thin layer	1.00	No ground water	1.00
		Slope	0.50	Content of large stones	0.55		
				Piping	0.22		
Romero family-------	20	Somewhat limited		Very limited		Very limited	
		Depth to bedrock	0.99	Thin layer	1.00	No ground water	1.00
		Slope	0.72	Content of large stones	0.75		
				Seepage	0.25		
				Piping	0.22		
101:							
Nolam family--------	35	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.25	No ground water	1.00
				Piping	0.22		
Ustalfic Petrocalcids-------	30	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Piping	0.60	No ground water	1.00
		Depth to cemented pan	0.56	Thin layer	0.56		

Table 12.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
101:							
Caralampi family----	25	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.25	No ground water	1.00
				Piping	0.22		
102:							
Ohaco family--------	50	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Thin layer	0.70	No ground water	1.00
		Depth to cemented pan	0.70	Seepage	0.19		
Bluebird----------	40	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.62	No ground water	1.00
103:							
Orejano----------	75	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.56	No ground water	1.00
		Slope	0.12				
104:							
Pantak family-------	45	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
		Slope	0.50	Content of large stones	1.00		
				Seepage	0.25		
				Piping	0.10		
Taine----------	25	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Content of large stones	1.00	No ground water	1.00
		Slope	0.50	Thin layer	1.00		
				Hard to pack	0.58		
Terino family-------	15	Very limited		Very limited		Very limited	
		Depth to cemented pan	1.00	Thin layer	1.00	No ground water	1.00
		Depth to bedrock	0.69	Content of large stones	0.68		
		Slope	0.50	Seepage	0.25		
				Piping	0.22		

Table 12.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
105:							
Pastern	50	Very limited		Very limited		Very limited	
		Seepage	1.00	Thin layer	1.00	No ground water	1.00
		Depth to cemented pan	1.00	Seepage	0.04		
		Slope	0.01				
Strych	40	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.62	No ground water	1.00
		Slope	0.01				
106:							
Peachsprings	75	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.04	No ground water	1.00
Havasupai	20	Very limited		Very limited		Very limited	
		Seepage	1.00	Thin layer	1.00	No ground water	1.00
		Depth to cemented pan	1.00	Seepage	0.75		
		Slope	0.10				
107:							
Pearce	80	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Content of large stones	1.00	No ground water	1.00
				Thin layer	1.00		
				Seepage	0.25		
108:							
Pearce	50	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
		Slope	1.00	Seepage	0.56		
Detrital	25	Very limited		Very limited		Very limited	
		Seepage	1.00	Content of large stones	1.00	No ground water	1.00
		Slope	0.64				
Rock outcrop	10	Not rated		Not rated		Not rated	

Table 12.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
109:							
Pearce	70	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
		Slope	0.72	Seepage	0.12		
Rock outcrop	15	Not rated		Not rated		Not rated	
110:							
Pedregosa family	50	Very limited		Very limited		Very limited	
		Depth to cemented pan	1.00	Thin layer	1.00	No ground water	1.00
				Piping	0.22		
				Seepage	0.03		
Tombstone family	40	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Piping	0.22	No ground water	1.00
		Depth to cemented pan	0.11	Seepage	0.12		
				Thin layer	0.11		
111:							
Pidineen family	65	Very limited		Very limited		Very limited	
		Depth to cemented pan	1.00	Thin layer	1.00	No ground water	1.00
				Seepage	0.02		
Tricon family	15	Somewhat limited		Very limited		Very limited	
		Depth to cemented pan	0.99	Thin layer	0.99	No ground water	1.00
112:							
Pits-dumps, mine	100	Not rated		Not rated		Not rated	
113:							
Playa	100	Not limited		Not rated		Not rated	

Table 12.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
114:							
Prieta	75	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
		Slope	0.10	Content of large stones	0.98		
Rock outcrop	15	Not rated		Not rated		Not rated	
115:							
Quagwa	85	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Piping	1.00	No ground water	1.00
116:							
Razorback	90	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
		Slope	0.28	Seepage	0.62		
117:							
Razorback	60	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
		Slope	0.94	Seepage	0.62		
Rock outcrop	20	Not rated		Not rated		Not rated	
118:							
Razorback	65	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
		Slope	1.00	Seepage	0.56		
Rock outcrop	30	Not rated		Not rated		Not rated	
119:							
Rift	75	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Piping	1.00	No ground water	1.00
				Ponding	1.00		
120:							
Rift	85	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Piping	1.00	No ground water	1.00
				Ponding	1.00		

Table 12.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
121:							
Rillino family------	50	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.62	No ground water	1.00
Shamock family------	25	Very limited		Very limited		Very limited	
		Seepage	1.00	Piping	1.00	No ground water	1.00
		Depth to cemented pan	0.99	Thin layer	0.99		
Dutchflat-----------	20	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.05	No ground water	1.00
122:							
Rock outcrop--------	50	Not rated		Not rated		Not rated	
Appleseed-----------	40	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
		Slope	1.00	Content of large stones	1.00		
				Seepage	0.12		
123:							
Rock outcrop--------	55	Not rated		Not rated		Not rated	
Pearce--------------	30	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
		Slope	1.00	Content of large stones	0.68		
				Seepage	0.04		
124:							
Rock outcrop--------	65	Not rated		Not rated		Not rated	
Razorback-----------	30	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
		Slope	0.97	Seepage	0.62		

Table 12.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
125:							
Rock outcrop--------	50	Not rated		Not rated		Not rated	
Torriorthents-------	40	Very limited		Not rated		Not rated	
		Slope	1.00				
126:							
Rock outcrop--------	50	Not rated		Not rated		Not rated	
Torriorthents-------	40	Very limited		Not rated		Not rated	
		Slope	1.00				
127:							
Rock outcrop--------	50	Not rated		Not rated		Not rated	
Valena--------------	25	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
		Slope	0.12	Seepage	0.02		
Kopie family--------	20	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
		Slope	0.12	Seepage	0.03		
128:							
Rolie---------------	60	Very limited		Very limited		Very limited	
		Depth to cemented pan	1.00	Thin layer	1.00	No ground water	1.00
		Slope	0.01				
Dean----------------	25	Somewhat limited		Not limited		Very limited	
		Seepage	0.70			No ground water	1.00
		Slope	0.01				
129:							
Romero--------------	45	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
		Slope	0.12	Seepage	0.19		

Table 12.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
129:							
Chiricahua----------	30	Somewhat limited		Very limited		Very limited	
		Depth to bedrock	0.99	Thin layer	1.00	No ground water	1.00
		Slope	0.12				
Rock outcrop--------	20	Not rated		Not rated		Not rated	
130:							
Romero--------------	60	Very limited		Very limited		Very limited	
		Slope	1.00	Thin layer	1.00	No ground water	1.00
		Depth to bedrock	0.94	Seepage	0.19		
Lampshire-----------	20	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
		Slope	1.00	Seepage	0.02		
Rock outcrop--------	15	Not rated		Not rated		Not rated	
131:							
Rositas-------------	80	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.75	No ground water	1.00
		Slope	0.10				
132:							
Shortbread----------	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.07	No ground water	1.00
133:							
Shortbread----------	40	Very limited		Very limited		Very limited	
		Seepage	1.00	Ponding	1.00	No ground water	1.00
				Seepage	0.07		
Kurstan family------	30	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.03	No ground water	1.00
Dusty---------------	20	Somewhat limited		Very limited		Very limited	
		Seepage	0.03	Piping	1.00	No ground water	1.00
				Ponding	1.00		

Table 12.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
134:							
Skelon family-------	35	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Thin layer	0.98	No ground water	1.00
		Depth to cemented pan	0.98	Seepage	0.62		
		Slope	0.06				
Greyeagle family----	30	Very limited		Very limited		Very limited	
		Depth to cemented pan	1.00	Thin layer	1.00	No ground water	1.00
				Seepage	0.19		
Detrital-----------	20	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.12	No ground water	1.00
		Slope	0.06				
135:							
Skelon family-------	60	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Thin layer	0.93	No ground water	1.00
		Depth to cemented pan	0.93	Seepage	0.30		
Pinaleno family-----	30	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.19	No ground water	1.00
136:							
Storybook----------	80	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.19	No ground water	1.00
137:							
Stronghold family---	45	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Piping	0.10	No ground water	1.00
				Seepage	0.03		
McAllister family---	35	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.50	No ground water	1.00
				Piping	0.10		

Table 12.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
138:							
Sunrock	90	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
		Slope	0.28	Seepage	0.62		
139:							
Sunrock	70	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
		Slope	0.99	Seepage	0.75		
				Content of large stones	0.40		
Rock outcrop	20	Not rated		Not rated		Not rated	
140:							
Superstition family-	40	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.12	No ground water	1.00
		Slope	1.00				
Carrwash	35	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.79	No ground water	1.00
		Slope	1.00				
141:							
Taine	90	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Content of large stones	1.00	No ground water	1.00
		Slope	0.24	Thin layer	1.00		
142:							
Thimble	85	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
		Slope	1.00	Content of large stones	1.00		
Rock outcrop	10	Not rated		Not rated		Not rated	

Table 12.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
143:							
Tombstone family----	50	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Piping	0.22	No ground water	1.00
				Seepage	0.12		
				Content of large stones	0.05		
Caralampi family----	20	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Piping	0.22	No ground water	1.00
				Seepage	0.12		
Nolam family--------	20	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.62	No ground water	1.00
				Piping	0.22		
144:							
Torriorthents-------	80	Very limited		Not rated		Not rated	
		Slope	1.00				
145:							
Torriorthents-------	50	Not limited		Not rated		Not rated	
Haplocambids--------	35	Not limited		Not rated		Not rated	
146:							
Torriorthents-------	70	Very limited		Not rated		Not rated	
		Slope	1.00				
Rock outcrop--------	15	Not rated		Not rated		Not rated	
147:							
Tovar---------------	50	Somewhat limited		Somewhat limited		Very limited	
		Depth to bedrock	0.88	Thin layer	0.88	No ground water	1.00
		Slope	0.04				
Grandwash-----------	40	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
		Slope	0.04	Content of large stones	1.00		

Table 12.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
148:							
Truxton	75	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Piping	1.00	No ground water	1.00
Truxton, frequently flooded	15	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Piping	1.00	No ground water	1.00
149:							
Tumarion	85	Very limited		Very limited		Very limited	
		Depth to cemented pan	1.00	Thin layer	1.00	No ground water	1.00
		Depth to bedrock	1.00	Seepage	0.56		
150:							
Tumarion	70	Very limited		Very limited		Very limited	
		Depth to cemented pan	1.00	Thin layer	1.00	No ground water	1.00
		Depth to bedrock	0.95	Content of large stones	0.84		
		Slope	0.18	Seepage	0.03		
Nickel family	15	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Content of large stones	0.90	No ground water	1.00
		Slope	0.18	Seepage	0.02		
151:							
Tumarion	75	Very limited		Very limited		Very limited	
		Depth to cemented pan	1.00	Thin layer	1.00	No ground water	1.00
		Depth to bedrock	0.99	Seepage	0.06		
		Slope	0.21				

Table 12.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
151:							
Nickel family-------	15	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Content of large stones	0.92	No ground water	1.00
		Slope	0.21	Seepage	0.02		
152:							
Tyro----------	90	Very limited		Very limited		Very limited	
		Depth to cemented pan	1.00	Thin layer	1.00	No ground water	1.00
		Depth to bedrock	1.00	Seepage	0.62		
		Slope	0.10				
153:							
Tyro----------	90	Very limited		Very limited		Very limited	
		Depth to cemented pan	1.00	Thin layer	1.00	No ground water	1.00
		Depth to bedrock	1.00	Seepage	0.30		
		Slope	0.06				
154:							
Tyro----------	55	Very limited		Very limited		Very limited	
		Depth to cemented pan	1.00	Thin layer	1.00	No ground water	1.00
				Seepage	0.56		
Sunrock----------	35	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
				Seepage	0.75		
155:							
Urban land----------	60	Not rated		Not rated		Not rated	
Calvista family-----	25	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
				Seepage	0.06		

Table 12.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
156:							
Ustorthents	60	Very limited		Not rated		Not rated	
		Depth to bedrock	1.00				
		Slope	1.00				
Rock outcrop	30	Not rated		Not rated		Not rated	
157:							
Valena	70	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
				Seepage	0.02		
Carri	20	Somewhat limited		Somewhat limited		Very limited	
		Depth to bedrock	0.93	Thin layer	0.93	No ground water	1.00
		Seepage	0.70				
158:							
Valena	40	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
		Slope	0.01	Seepage	0.02		
Rock outcrop	20	Not rated		Not rated		Not rated	
Carri family	15	Very limited		Not limited		Very limited	
		Seepage	1.00			No ground water	1.00
		Slope	0.01				
159:							
Vekol family	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.64	No ground water	1.00
160:							
Vekol family	80	Somewhat limited		Not limited		Very limited	
		Seepage	0.70			No ground water	1.00
161:							
Vekol family	50	Not limited		Somewhat limited		Very limited	
				Hard to pack	0.95	No ground water	1.00
				Seepage	0.19		

Table 12.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
161:							
Whitehills	35	Somewhat limited		Somewhat limited		Very limited	
		Depth to cemented pan	0.93	Thin layer	0.93	No ground water	1.00
		Seepage	0.70	Seepage	0.19		
162:							
Vock	60	Somewhat limited		Very limited		Very limited	
		Slope	0.99	Thin layer	1.00	No ground water	1.00
		Depth to bedrock	0.61	Seepage	0.18		
Elements	20	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.62	No ground water	1.00
		Slope	0.99	Content of large stones	0.18		
Rock outcrop	10	Not rated		Not rated		Not rated	
163:							
Vock	45	Somewhat limited		Very limited		Very limited	
		Slope	0.99	Thin layer	1.00	No ground water	1.00
		Depth to bedrock	0.84	Content of large stones	0.30		
				Seepage	0.04		
Elements	40	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.62	No ground water	1.00
		Slope	0.99	Content of large stones	0.18		
Rock outcrop	10	Not rated		Not rated		Not rated	
164:							
Water	100	Not rated		Not rated		Not rated	
165:							
White House	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.10	No ground water	1.00

Table 12.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
166:							
White House family--	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.12	No ground water	1.00
167:							
Whitehills----------	80	Somewhat limited		Somewhat limited		Very limited	
		Depth to cemented pan	0.93	Thin layer	0.93	No ground water	1.00
		Seepage	0.70	Seepage	0.19		
168:							
Wodomont----------	50	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
		Slope	0.21	Seepage	0.50		
				Content of large stones	0.47		
Kydestea----------	25	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
		Slope	0.21	Content of large stones	1.00		
				Seepage	0.19		
169:							
Wodomont----------	45	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
		Slope	0.72	Seepage	0.50		
				Content of large stones	0.47		
Metuck----------	30	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
		Slope	0.72	Content of large stones	0.14		
				Seepage	0.12		
Rock outcrop--------	15	Not rated		Not rated		Not rated	

Table 12.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
170:							
Wodomont	70	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
		Slope	0.21				
Rock outcrop	20	Not rated		Not rated		Not rated	
171:							
Yahana family	85	Very limited		Very limited		Very limited	
		Seepage	1.00	Salinity	1.00	No ground water	1.00
				Piping	1.00		
				Seepage	0.28		
172:							
Zibate family	75	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
		Slope	0.12	Seepage	0.25		
173:							
Zibate family	80	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
		Slope	0.28	Content of large stones	1.00		
174:							
Zibate family	45	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
		Slope	0.10	Content of large stones	0.62		
Dutchflat	25	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.25	No ground water	1.00
Tumarion	15	Very limited		Very limited		Very limited	
		Depth to cemented pan	1.00	Thin layer	1.00	No ground water	1.00
		Depth to bedrock	0.95	Content of large stones	0.79		
		Slope	0.01	Seepage	0.03		

Table 13.--Engineering Properties

(Absence of an entry indicates that the data were not estimated.)

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
1:												
Alko family----	0-1	Cobbly loam	CL-ML, GM, ML, SC-SM	A-4	0	20-35	70-95	65-90	55-85	40-70	15-25	NP-5
	1-10	Gravelly loam	CL-ML, GC-GM, GM	A-2, A-4	0	0-10	55-80	50-75	40-70	30-55	15-25	NP-5
	10-15	Gravelly loam	CL-ML, GC-GM, GM	A-2, A-4	0	0-10	55-80	50-75	40-70	30-55	15-25	NP-5
	15-31	Indurated			---	---	---	---	---	---	---	---
	31-60	Extremely gravelly sand	GW	A-1	0	0	20-30	15-25	5-20	0-5	15-25	NP-5
2:												
Alko family----	0-2	Gravelly sandy loam	CL-ML, GC-GM, GM	A-2, A-4	0	0-10	55-80	50-75	40-70	30-55	15-25	NP-5
	2-10	Gravelly loam	CL-ML, GC-GM, GM	A-2, A-4	0	0-10	55-80	50-75	40-70	30-55	15-25	NP-5
	10-18	Gravelly loam	CL-ML, GC-GM, GM	A-2, A-4	0	0-10	55-80	50-75	40-70	30-55	15-25	NP-5
	18-31	Indurated			---	---	---	---	---	---	---	---
	31-60	Extremely gravelly sand	GW	A-1	0	0	20-30	15-25	5-20	0-5	15-25	NP-5
3:												
Appleseed------	0-2	Very flaggy sandy loam	SC-SM, SM	A-1, A-2	0-5	35-50	70-85	60-80	35-55	20-30	15-25	NP-5
	2-11	Very flaggy sandy loam	SC-SM, SM	A-1, A-2	0-5	35-50	70-85	60-80	35-55	20-30	15-25	NP-5
	>11	Unweathered bedrock			---	---	---	---	---	---	---	---
Huevi----------	0-2	Very gravelly sandy loam	GM	A-1	0	0-5	30-55	25-50	15-35	10-20	10-25	NP-5
	2-18	Very gravelly sandy loam	GM	A-1	0	0-5	30-55	25-50	15-35	10-20	10-25	NP-5
	18-60	Very gravelly loam	GM	A-4	0	0-5	35-55	30-50	25-50	15-45	30-40	5-10

Table 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
4:												
Aridic Argiustolls---	---	---	---	---	---	---	---	---	---	---	---	---
Lithic Haplustolls---	---	---	---	---	---	---	---	---	---	---	---	---
5:												
Arizo----------	0-6	Gravelly loamy sand	SM	A-1, A-2	0	0	65-85	55-75	45-65	20-30	0-15	NP
	6-20	Extremely gravelly coarse sand	GW	A-1	0	0	10-40	10-35	5-25	0-5	0-15	NP
	20-60	Extremely gravelly loamy coarse sand	GC-GM	A-1	0	0	25-35	15-30	10-15	5-10	15-25	NP-5
Detrital-------	0-3	Gravelly sandy loam	SM	A-2	0	0-10	60-80	55-75	35-60	15-25	20-25	NP-5
	3-24	Extremely gravelly sandy loam	GW-GM	A-1	0	0-15	20-30	15-25	10-20	5-10	15-20	NP-5
	24-60	Very gravelly sandy loam	GP-GM	A-1	0	0-15	40-50	35-45	25-35	5-10	15-20	NP-5
Nickel---------	0-3	Extremely gravelly sandy loam	GW-GM	A-1	0	0	20-30	15-25	10-20	5-10	10-25	NP-5
	3-19	Very gravelly sandy loam	GM	A-1	0	0	30-55	25-50	15-35	10-20	10-25	NP-5
	19-60	Extremely gravelly sandy loam	GW-GM	A-1	0	0	20-30	15-25	10-20	5-10	10-25	NP-5

Table 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
6:												
Arizo----------	0-2	Gravelly sandy loam	GC-GM, GM, SC-SM, SM	A-1, A-2	0	0	55-80	50-75	30-50	15-30	15-25	NP-5
	2-11	Gravelly sandy loam	GC-GM, GM, SC-SM, SM	A-1, A-2	0	0	55-80	50-75	30-50	15-30	15-25	NP-5
	11-15	Sandy loam	SC-SM, SM	A-2, A-4, A-1	0	0	80-100	75-100	45-70	20-40	15-25	NP-5
	15-35	Extremely gravelly loamy sand	GW, GC-GM	A-1, A-2	0	0	20-30	15-25	5-20	0-10	15-30	NP-10
	35-60	Very gravelly loamy coarse sand	GW	A-1, A-2	0	0	30-55	25-50	10-25	0-10	15-30	NP-10
Franconia------	0-2	Sandy loam	SC-SM, SM	A-4	0	0	95-100	90-100	65-85	35-55	15-25	NP-5
	2-18	Loamy sand	SM, SC, SC-SM	A-1, A-2	0	0	80-100	75-100	40-75	10-30	10-25	NP-10
	18-33	Stratified loamy sand	SM, SC, SC-SM	A-1, A-2	0	0	80-100	75-100	40-75	10-30	10-25	NP-10
	33-60	Gravelly loamy sand	SC-SM, SM	A-1, A-2	0	0	55-80	50-75	25-55	10-20	10-25	NP-10
Riverwash------	---	---	---	---	---	---	---	---	---	---	---	---
7:												
Arizo----------	0-1	Gravelly sandy loam	SM	A-2, A-1	0	0-5	55-80	50-75	30-50	15-30	10-25	NP-5
	1-9	Loamy coarse sand	SM	A-2, A-1	0	0-5	80-100	75-100	40-75	10-30	10-25	NP
	9-60	Extremely gravelly loamy coarse sand	GW-GM	A-1	0	0-5	20-30	15-25	10-20	5-10	10-25	NP
Riverwash------	---	---	---	---	---	---	---	---	---	---	---	---
8:												
Arizo----------	0-6	Gravelly loamy sand	SM	A-1, A-2	0	0	65-85	55-75	45-65	20-30	0-15	NP
	6-20	Extremely gravelly coarse sand	GW	A-1	0	0	10-40	10-35	5-25	0-5	0-15	NP
	20-60	Extremely gravelly loamy coarse sand	GC-GM	A-1	0	0	25-35	15-30	10-15	5-10	15-25	NP-5

Table 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
8:												
Riverwash------	---	---	---	---	---	---	---	---	---	---	---	---
9:												
Arizo----------	0-6	Gravelly loamy sand	SM	A-1, A-2	0	0	65-85	55-75	45-65	20-30	0-15	NP
	6-12	Gravelly loamy sand	SM	A-1, A-2	0	0	65-85	55-75	45-65	20-30	0-15	NP
	12-60	Extremely gravelly sand	GW	A-1	0-5	0-35	40-50	15-30	5-20	0-10	5-10	NP
Riverwash------	---	---	---	---	---	---	---	---	---	---	---	---
10:												
Arizo----------	0-60	Extremely gravelly sand	GW	A-1	0-5	0-35	40-50	15-30	5-20	0-10	5-10	NP
Riverwash------	---	---	---	---	---	---	---	---	---	---	---	---
11:												
Azure----------	0-2	Very gravelly sandy loam	GM	A-1	0	0	30-50	25-50	15-35	10-20	10-25	NP-5
	2-6	Very gravelly sandy loam	GM	A-1	0	0	30-50	25-50	15-35	10-20	10-25	NP-5
	6-10	Very gravelly sandy loam	GM	A-1	0	0	30-50	25-50	15-35	10-20	10-25	NP-5
	10-28	Weathered bedrock			---	---	---	---	---	---	---	---
	>28	Unweathered bedrock			---	---	---	---	---	---	---	---
Detrital-------	0-2	Very gravelly sandy loam	GC-GM, GM	A-1	0	0	30-55	25-50	15-35	10-20	20-25	NP-5
	2-27	Very gravelly sandy loam	GC-GM, GM	A-1	0	0	30-55	25-50	15-35	10-20	20-25	NP-5
	27-60	Very gravelly sandy loam	GC-GM, GM	A-1	0	0	30-55	25-50	15-35	10-20	20-25	NP-5

Table 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
11:												
Antares--------	0-3	Very gravelly sandy loam	GM	A-1	0	0	35-55	25-50	15-35	10-20	15-25	NP-5
	3-18	Very gravelly sandy loam	GM	A-1	0	0	35-55	25-50	15-35	10-20	15-25	NP-5
	18-60	Weathered bedrock			---	---	---	---	---	---	---	---
12:												
Birdsbeak------	0-2	Very channery loam	GC-GM, GM	A-4, A-2	0	0	30-55	25-50	20-50	15-40	20-30	NP-10
	2-4	Very channery clay loam	GC	A-6, A-2	0	0	30-55	25-50	20-50	20-40	30-35	10-15
	4-8	Very channery clay	GC	A-7	0	0	30-55	25-50	25-50	20-50	40-50	20-30
	8-20	Weathered bedrock			---	---	---	---	---	---	---	---
	20-60	Weathered bedrock			---	---	---	---	---	---	---	---
13:												
Bluebird-------	0-2	Very stony sandy loam	SM	A-1	25-35	5-25	60-70	55-65	35-45	15-20	20-25	NP-5
	2-5	Very gravelly sandy loam	GM	A-1	0	0	35-50	30-45	15-35	10-20	10-25	NP
	5-30	Extremely gravelly sandy clay loam	SM	A-2	0	0	50-60	5-30	5-30	5-25	20-45	5-15
	30-60	Extremely gravelly coarse sandy loam	GC-GM	A-1, A-2	0	0	30-50	20-30	10-20	5-10	20-30	5-10
Detrital-------	0-1	Very stony sandy loam	SM	A-1	25-35	0-25	60-70	55-65	35-45	15-20	20-25	NP-5
	1-13	Gravelly sandy loam	SC-SM, SM	A-2, A-1	0	0	55-80	50-75	30-50	15-30	20-25	NP-5
	13-60	Very gravelly sandy loam	GC-GM, GM	A-1	0	0	30-55	25-50	15-35	10-20	20-25	NP-5

Table 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
14:												
Bluebird-------	0-2	Loam	CL	A-6	0	0	90-100	85-100	60-100	55-90	30-40	15-20
	2-8	Gravelly sandy clay loam	SM	A-2	0	0	60-75	55-70	25-55	15-35	25-35	5-10
	8-20	Gravelly sandy clay loam	SM	A-2	0	0	60-75	55-70	25-55	15-35	25-35	5-10
	20-60	Very gravelly sandy clay loam	GC-GM	A-2	0	0	60-70	30-45	15-45	10-35	15-20	5-10
Lostman--------	0-3	Gravelly sandy loam	SM	A-2	0	0	60-80	55-75	35-60	15-25	20-25	NP-5
	3-12	Gravelly sandy loam	SM	A-2	0	0	60-80	55-75	35-60	15-25	20-25	NP-5
	12-57	Gravelly loam	CL-ML, GC-GM, GM	A-2, A-4	0	0	55-80	50-75	40-70	30-55	15-25	NP-5
	57-68	Gravelly sandy clay loam	GC	A-6	0	0	60-80	55-75	40-50	35-45	30-35	10-15
15:												
Carrizo--------	0-1	Extremely gravelly sandy loam	GM	A-2, A-1	0	0	20-30	15-25	15-25	5-20	20-30	NP-10
	1-4	Gravelly sandy loam	SM	A-2	0	0	60-80	55-75	50-75	20-35	25-30	NP-5
	4-60	Extremely gravelly loamy sand	GW-GM	A-1	0	0	20-30	15-25	10-20	5-10	10-25	NP
Carrizo, rarely flooded-------	0-2	Extremely gravelly sandy loam	GM	A-2, A-1	0	0	20-30	15-25	15-25	5-20	20-30	NP-10
	2-60	Extremely gravelly loamy sand	GW-GM	A-1	0	0	20-30	15-25	10-20	5-10	10-25	NP

Table 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
16:												
Carrizo--------	0-2	Gravelly loamy sand	SM	A-1	0	0	60-70	55-65	25-45	15-25	10-15	NP-5
	2-6	Very gravelly loamy coarse sand	GW	A-1	0	0	25-50	20-45	10-25	0-10	10-15	NP
	6-17	Gravelly loamy sand	SM	A-1	0	0	60-70	55-65	25-45	15-25	10-15	1-5
	17-60	Extremely gravelly loamy sand	GW-GM	A-1	0	0	20-30	15-25	10-20	5-10	10-25	NP
Riverwash------	---	---	---	---	---	---	---	---	---	---	---	---
17:												
Carrizo--------	0-1	Extremely gravelly loamy sand	GW-GM	A-1	0	0-5	20-30	15-25	10-20	5-10	10-25	NP
	1-23	Extremely gravelly loamy sand	GW-GM	A-1	0	0-5	20-30	15-25	10-20	5-10	10-25	NP
	23-60	Extremely gravelly sand	GW	A-1	0	0-5	20-30	15-25	10-20	1-5	0-10	NP
Riverwash------	---	---	---	---	---	---	---	---	---	---	---	---
18:												
Chuckawalla----	0-1	Extremely gravelly silt loam	GC-GM, GM	A-1	0	5-15	15-30	10-25	5-25	5-20	15-25	NP-5
	1-5	Gravelly loam	CL, CL-ML, SC, SC-SM	A-2, A-4	0	0-5	55-80	50-75	40-70	30-55	25-30	5-10
	5-20	Very gravelly loam	GC, GC-GM	A-1, A-2, A-4	0	0	30-55	25-50	20-50	15-40	25-30	5-10
	20-29	Extremely gravelly loamy sand	GW, GW-GM	A-1	0	0	20-30	15-25	5-20	0-10	10-20	NP-5
	29-34	Very gravelly sandy loam	GC-GM, GM	A-1	0	0	30-55	25-50	15-35	5-20	15-25	NP-5
	34-60	Very gravelly loamy sand	GC-GM, GM	A-1	0	0	30-55	25-50	10-30	5-15	10-20	NP-5

Table 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
18:												
Riverbend------	0-2	Very cobbly sandy loam	GC-GM, GM	A-1	0-5	20-30	45-55	40-50	20-25	10-20	15-25	NP-5
	2-7	Very gravelly sandy loam	GC-GM, GM, SC-SM, SM	A-1	0	0-5	55-65	45-55	25-30	15-25	20-25	NP-5
	7-18	Very cobbly loamy sand	GM	A-1	0	0-15	45-55	40-50	15-25	5-15	15-20	NP-5
	18-34	Very gravelly loamy sand	GC-GM, GM	A-1	0	0	30-55	25-50	10-30	5-15	10-20	NP-5
	34-60	Very gravelly sand	GM, GP, GP-GM, SP-SM	A-1	0	0	30-65	15-60	5-35	0-15	0-14	NP
19:												
Circular-------	0-4	Loam	CL-ML	A-4	0	0	80-100	75-100	65-95	45-75	20-25	5-10
	4-27	Loam	CL-ML	A-4	0	0	80-100	75-100	65-95	45-75	20-25	5-10
	27-60	Loam	CL-ML	A-4	0	0	80-100	75-100	65-95	45-75	20-25	5-10
Circular-------	0-3	Sandy loam	SC-SM, SM	A-2, A-4, A-1	0	0	80-100	75-100	45-70	20-40	15-25	NP-5
	3-11	Sandy loam	SC-SM, SM	A-2, A-4, A-1	0	0	80-100	75-100	45-70	20-40	15-25	NP-5
	11-22	Sandy loam	SC-SM, SM	A-2, A-4, A-1	0	0	80-100	75-100	45-70	20-40	15-25	NP-5
	22-36	Gravelly sandy loam	SM, GM, GC-GM, SC-SM	A-1, A-2	0-5	0-5	55-80	50-75	30-50	15-30	15-25	NP-5
	36-45	Gravelly sandy loam	SM, GM, GC-GM, SC-SM	A-1, A-2	0-5	0-5	55-80	50-75	30-50	15-30	15-25	NP-5
	45-60	Gravelly loamy sand	SC-SM, SM	A-1, A-2	0	0	55-80	50-75	25-55	10-20	10-25	NP-10
20:												
Circular-------	0-2	Sandy loam	SC-SM, SM	A-4, A-2	0	0	95-100	90-100	55-70	25-40	15-25	NP-5
	2-35	Sandy loam	SC-SM, SM	A-4, A-2	0	0	95-100	90-100	55-70	25-40	15-25	NP-5
	35-44	Sandy loam	SC-SM, SM	A-4, A-2	0	0	95-100	90-100	55-70	25-40	15-25	NP-5
	44-60	Loamy sand	SP-SM, SC-SM, SM	A-2, A-1	0	0	80-100	75-100	40-75	10-30	10-20	NP-5
Dusty----------	0-2	Sandy loam	SM, SC-SM	A-4, A-2	0	0	95-100	90-100	55-70	25-40	15-25	NP-5
	2-4	Loam	ML, CL-ML	A-4	0	0	95-100	90-100	75-95	55-75	15-25	NP-5
	4-20	Clay loam	CL	A-6	0	0	95-100	90-100	80-100	65-80	30-35	10-15
	20-35	Sandy clay loam	SC-SM, CL, CL-ML, SC	A-6, A-4, A-2	0	0	95-100	90-100	70-90	30-55	25-35	5-15
	35-60	Loam	CL, CL-ML, ML	A-4	0	0	95-100	90-100	75-95	55-75	15-30	NP-10

Table 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
21:												
Cod	0-2	Gravelly sandy loam	GM, GC-GM, SC-SM, SM	A-2, A-1	0	0	55-80	50-75	30-50	15-30	15-25	NP-5
	2-14	Gravelly sandy loam	GM, GC-GM, SC-SM, SM	A-2, A-1	0	0	55-80	50-75	30-50	15-30	15-25	NP-5
	14-20	Gravelly sandy loam	GM, GC-GM, SC-SM, SM	A-2, A-1	0	0	55-80	50-75	30-50	15-30	15-25	NP-5
	20-48	Gravelly sandy loam	GM, GC-GM, SC-SM, SM	A-2, A-1	0	0	55-80	50-75	30-50	15-30	15-25	NP-5
	48-60	Very gravelly sandy loam	GM	A-1	0	0	30-55	25-50	15-35	15-20	15-25	NP-5
22:												
Cordes	0-2	Sandy loam	SC-SM, SM	A-2, A-4, A-1	0	0	80-100	75-100	45-70	20-40	15-25	NP-5
	2-32	Sandy loam	SC-SM, SM	A-2, A-4, A-1	0	0	80-100	75-100	45-70	20-40	15-25	NP-5
	32-60	Very gravelly sandy loam	GW-GM	A-1	0	0	40-50	35-45	15-20	5-15	15-25	NP-5
Manikan	0-3	Sandy loam	SC-SM, SM	A-2, A-4, A-1	0	0	80-100	75-100	45-70	20-40	15-25	NP-5
	3-24	Sandy clay loam	SC-SM, CL, CL-ML, SC	A-4, A-2	0	0	95-100	90-100	70-90	30-55	25-30	5-10
	24-39	Sandy clay loam	SC-SM, CL, CL-ML, SC	A-4, A-2	0	0	95-100	90-100	70-90	30-55	25-30	5-10
	39-60	Loam	CL-ML	A-4	0	0	95-100	95-100	85-95	60-75	25-30	5-10
Riverwash	---	---	---	---	---	---	---	---	---	---	---	---
23:												
Cupel	0-2	Very gravelly sandy loam	GM	A-1	0	10-30	30-55	25-55	15-35	15-20	15-25	NP-5
	2-12	Extremely gravelly sandy clay loam	GW-GC	A-2, A-1	0	10-30	20-30	15-25	10-20	2-15	25-30	5-10
	12-17	Extremely gravelly sandy clay loam	GW-GC	A-2, A-1	0	10-30	20-30	15-25	10-20	2-15	25-30	5-10
	>17	Unweathered bedrock			---	---	---	---	---	---	---	---
Rock outcrop	---	---	---	---	---	---	---	---	---	---	---	---

Table 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
24:												
Cyclopic-------	0-2	Very stony sandy loam	SM	A-1	25-40	25-40	60-70	55-65	35-45	15-20	20-25	NP-5
	2-5	Very stony sandy clay loam	GC, SC	A-2	25-40	25-40	45-70	40-65	30-55	20-35	30-40	10-15
	5-25	Very stony clay	CH	A-7	25-40	25-40	55-80	50-75	45-75	40-70	50-70	30-45
	25-60	Indurated			---	---	---	---	---	---	---	---
25:												
Deluge---------	0-2	Very gravelly sandy loam	GM	A-1	0	0-5	30-55	25-55	15-30	5-15	15-25	NP-5
	2-8	Very gravelly sandy clay loam	GC-GM, GC	A-2, A-1	0	0-5	30-55	25-55	25-45	10-30	25-35	5-15
	8-18	Very gravelly sandy clay loam	GC-GM, GC	A-2, A-1	0	0-5	30-55	25-55	25-45	10-30	25-35	5-15
	18-24	Very gravelly sandy clay loam	GC-GM, GC	A-2, A-1	0	0-5	30-55	25-55	25-45	10-30	25-35	5-15
	24-52	Indurated			---	---	---	---	---	---	---	---
	>52	Unweathered bedrock			---	---	---	---	---	---	---	---
Gotchell-------	0-2	Extremely gravelly sandy loam	GM	A-1	0	0-5	20-30	15-25	5-20	5-15	15-25	NP-5
	2-14	Extremely gravelly sandy loam	GM	A-1	0	0-5	20-30	15-25	5-20	5-15	15-25	NP-5
	14-28	Indurated			---	---	---	---	---	---	---	---
	>28	Unweathered bedrock			---	---	---	---	---	---	---	---

Table 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
25:												
Sunstroke------	0-2	Extremely gravelly sandy loam	GW-GM	A-1	0	0-5	20-30	15-25	5-20	5-10	15-25	NP-5
	2-18	Extremely gravelly sandy loam	GW-GM	A-1	0	0-5	20-30	15-25	5-20	5-10	15-25	NP-5
	18-24	Extremely gravelly sandy loam	GW-GM	A-1	0	0-5	20-30	15-25	5-20	5-10	15-25	NP-5
	24-45	Indurated			---	---	---	---	---	---	---	---
	>45	Unweathered bedrock			---	---	---	---	---	---	---	---
26:												
Detrital-------	0-2	Very gravelly sandy loam	GC-GM, GM	A-1	0	0	30-55	25-50	15-35	10-20	20-25	NP-5
	2-60	Very gravelly sandy loam	GC-GM, GM	A-1	0	0	30-55	25-50	15-35	10-20	20-25	NP-5
Bluebird-------	0-3	Very gravelly sandy clay loam	GW-GC	A-2, A-1	0-5	5-20	30-55	25-50	25-45	10-30	25-30	5-10
	3-18	Extremely gravelly sandy clay loam	GC-GM	A-1	0-10	5-20	20-30	15-25	10-25	5-15	25-30	5-10
	18-44	Extremely gravelly coarse sandy loam	GW-GM, GW	A-1	0-10	5-20	20-30	15-25	5-20	0-10	15-25	NP-5
	44-60	Very gravelly sandy clay loam	GC-GM, GC	A-2, A-1	0-10	5-20	35-55	25-50	25-45	10-30	25-30	5-10

Table 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
27:												
Detrital-------	0-2	Gravelly sandy loam	SM	A-2	0	0	60-80	55-75	35-60	15-25	20-25	NP-5
	2-14	Gravelly sandy loam	SM	A-2	0	0	60-80	55-75	35-60	15-25	20-25	NP-5
	14-45	Extremely gravelly coarse sandy loam	GW	A-1	0	0	20-35	10-25	5-10	0-5	20-25	NP-5
	45-60	Extremely gravelly coarse sandy loam	GW	A-1	0	0	20-35	10-25	5-10	0-5	20-25	NP-5
Nealy----------	0-2	Gravelly loam	SM	A-2	0	0	70-80	60-70	50-60	20-30	20-25	NP-5
	2-14	Gravelly sandy loam	SM, SC-SM	A-1, A-2	0	0	55-80	50-75	30-50	15-30	20-25	NP-5
	14-33	Gravelly sandy clay loam	SC-SM	A-1, A-2, A-6, A-4	0	0	55-80	50-75	40-70	20-40	25-35	5-15
	33-48	Indurated			---	---	---	---	---	---	---	---
	48-60	Extremely gravelly sand	GW	A-1	0	0-10	20-30	15-25	10-20	1-5	0-0	NP
28:												
Detrital-------	0-2	Gravelly sandy loam	SC-SM, SM	A-2, A-1	0	0	55-80	50-75	30-50	15-30	20-25	NP-5
	2-60	Very gravelly sandy loam	GC-GM, GM	A-1	0	0	30-55	25-50	15-35	10-20	20-25	NP-5
Nickel---------	0-2	Very gravelly sandy loam	GM	A-1	0	0	30-55	25-50	15-35	10-20	10-25	NP-5
	2-11	Very gravelly sandy loam	GM	A-1	0	0	30-55	25-50	15-35	10-20	10-25	NP-5
	11-28	Extremely gravelly loamy sand	GM	A-1	0	0	15-30	10-25	5-20	5-15	20-25	NP-5
	28-46	Extremely gravelly sandy loam	GW-GM	A-1	0	0	20-30	15-25	10-20	5-10	10-25	NP-5
	46-60	Extremely gravelly loamy sand	GM	A-1	0	0	15-30	10-25	5-20	5-15	20-25	NP-5

Table 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
29:												
Detrital-------	0-1	Gravelly sandy loam	SC-SM, SM	A-2, A-1	0	0	55-80	50-75	30-50	15-30	20-25	NP-5
	1-13	Gravelly sandy loam	SC-SM, SM	A-2, A-1	0	0	55-80	50-75	30-50	15-30	20-25	NP-5
	13-26	Very gravelly sandy loam	GC-GM, GM	A-1	0	0	30-55	25-50	15-35	10-20	20-25	NP-5
	26-60	Extremely gravelly sandy loam	GW-GM	A-1	0	0	20-30	15-25	10-20	5-10	15-20	NP-5
Nickel family--------	0-2	Gravelly sandy loam	SM	A-2, A-1	0	0-5	55-80	50-75	30-50	15-30	10-25	NP-5
	2-21	Gravelly sandy loam	SM	A-2, A-1	0	0	55-80	50-70	30-50	15-30	10-25	NP-5
	21-42	Very gravelly sandy loam	GM	A-1	0	0	30-55	25-50	15-35	10-20	10-25	NP-5
	42-60	Indurated			---	---	---	---	---	---	---	---
30:												
Detrital-------	0-2	Very gravelly sandy loam	GC-GM, GM	A-1	0	0	30-55	25-50	15-35	10-20	20-25	NP-5
	2-60	Very gravelly sandy loam	GC-GM, GM	A-1	0	0	30-55	25-50	15-35	10-20	20-25	NP-5
Skelon Family--------	0-2	Very gravelly sandy loam	GM	A-1	0	0-15	35-50	30-45	20-40	10-25	20-25	NP-5
	2-22	Very gravelly sandy loam	GM	A-1	0	0-15	35-50	30-45	20-40	10-25	20-25	NP-5
	22-60	Indurated			---	---	---	---	---	---	---	---
31:												
Dusty----------	0-2	Sandy loam	SM, SC-SM	A-4, A-2	0	0	95-100	90-100	55-70	25-40	15-25	NP-5
	2-6	Loam	ML, CL-ML	A-4	0	0	95-100	90-100	75-95	55-75	15-25	NP-5
	6-10	Loam	ML, CL-ML	A-4	0	0	95-100	90-100	75-95	55-75	15-25	NP-5
	10-19	Clay loam	CL	A-6	0	0	95-100	90-100	80-100	65-80	30-35	10-15
	19-24	Sandy clay loam	SC-SM, CL, CL-ML, SC	A-6, A-4, A-2	0	0	95-100	90-100	70-90	30-55	25-35	5-15
	24-31	Sandy clay loam	SC-SM, CL, CL-ML, SC	A-6, A-4, A-2	0	0	95-100	90-100	70-90	30-55	25-35	5-15
	31-50	Clay loam	CL	A-6	0	0	95-100	90-100	80-100	65-80	30-35	10-15
	50-60	Sandy loam	SC-SM, SM	A-2, A-4	0	0	95-100	90-100	55-70	25-40	15-25	NP-5

Table 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
31:												
Kurstan family	0-3	Sandy loam	SM	A-2	0	0	90-100	85-95	50-70	10-15	20-25	NP-5
	3-18	Sandy loam	SM	A-2	0	0	90-100	85-95	50-70	10-15	20-25	NP-5
	18-26	Sandy loam	SM	A-2	0	0	90-100	85-95	50-70	10-15	20-25	NP-5
	26-58	Sandy loam	SM	A-2	0	0	90-100	85-95	50-70	10-15	20-25	NP-5
	58-60	Extremely gravelly sand	GW-GM, GW	A-1	0	0	15-40	10-35	5-25	0-10	0-10	NP
32:												
Dutchflat	0-4	Sandy loam	SC-SM, SM	A-2, A-4	0	0	90-100	85-100	50-70	25-40	15-25	NP-5
	4-37	Sandy clay loam	CL, CL-ML, SC, SC-SM	A-2, A-4, A-6	0	0	90-100	85-100	70-90	30-55	15-35	5-15
	37-60	Coarse sandy loam	SC-SM, SM	A-1, A-2	0	0	90-100	85-100	45-65	20-35	15-25	NP-5
33:												
Dye	0-2	Very channery clay loam	GC	A-6, A-2	0-15	0-50	30-55	25-50	20-50	20-40	30-35	10-15
	2-13	Clay	CH, CL	A-7	0	0	85-100	80-100	75-95	60-95	45-65	20-45
	>13	Unweathered bedrock			---	---	---	---	---	---	---	---
Tovar	0-1	Extremely gravelly fine sandy loam	GM, GC-GM	A-1	0-15	0-20	10-30	5-25	5-20	5-15	20-25	NP-5
	1-3	Very gravelly loam	GC-GM, GM	A-1, A-2, A-4	0-15	0-20	30-55	20-50	20-50	15-40	15-25	NP-5
	3-11	Clay loam	CL	A-6	0-10	0-10	80-100	75-100	70-100	50-80	30-35	10-15
	11-21	Clay	CH, CL	A-7	0-10	0-10	95-100	90-95	75-90	50-75	40-55	20-30
	21-27	Cobbly clay	CH	A-7	0-15	20-40	80-90	75-85	65-70	55-70	50-60	40-45
	27-35	Cobbly clay	CH	A-7	0-15	20-40	80-90	75-85	65-70	55-70	50-60	40-45
	>35	Unweathered bedrock			---	---	---	---	---	---	---	---
Rock outcrop	---	---	---	---	---	---	---	---	---	---	---	---

Table 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
34:												
Faraway--------	0-3	Extremely gravelly loam	GW-GM	A-1	0	0	20-35	15-25	5-15	5-10	20-25	NP-10
	3-7	Very gravelly loam	GC-GM, GM, GC	A-1, A-2	0	0-5	40-60	35-50	30-50	20-35	23-34	5-10
	7-9	Weathered bedrock			---	---	---	---	---	---	---	---
	>9	Unweathered bedrock			---	---	---	---	---	---	---	---
Rock outcrop---	---	---	---	---	---	---	---	---	---	---	---	---
35:												
Fig----------	0-2	Extremely stony sandy loam	SM	A-1, A-2	45-65	25-45	55-80	50-75	30-50	15-30	10-25	NP-5
	2-9	Very gravelly sandy loam	GM	A-1	0	0-5	30-55	25-50	15-35	10-20	10-25	NP-5
	9-60	Weathered bedrock			---	---	---	---	---	---	---	---
Blind----------	0-2	Extremely cobbly sandy loam	GM, SM	A-2, A-1	0-20	25-50	55-80	50-75	30-50	15-30	10-25	NP-5
	2-5	Very gravelly sandy loam	GM	A-1	0	0-10	30-55	25-50	15-35	10-20	10-25	NP-5
	5-15	Very gravelly sandy clay loam	GC	A-2, A-1	0	0-10	30-55	25-50	25-45	18-30	25-35	5-15
	15-27	Very cobbly sandy clay loam	GC, GC-GM	A-2, A-1	0	30-50	55-80	50-75	40-70	20-35	25-35	5-15
	27-44	Very cobbly sandy clay loam	GC, GC-GM	A-2, A-1	0	30-50	55-80	50-75	40-70	20-35	25-35	5-15
	44-60	Very cobbly sandy clay loam	GC, GC-GM	A-2, A-1	0	30-50	55-80	50-75	40-70	20-35	25-35	5-15

Table 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
35:												
Nodman---------	0-2	Extremely cobbly sandy loam	GM	A-1	0	55-65	30-55	25-50	15-35	10-20	10-25	NP-5
	2-5	Extremely gravelly sandy loam	GM	A-1	0	15-50	20-30	15-25	15-25	10-20	10-25	NP-5
	5-8	Very gravelly sandy clay loam	GC-GM	A-2, A-1	0	0-20	30-55	25-50	25-45	20-30	25-35	5-15
	8-10	Very gravelly sandy clay loam	GC-GM	A-2, A-1	0	0-20	30-55	25-50	25-45	20-30	25-35	5-15
	10-60	Weathered bedrock			---	---	---	---	---	---	---	---
36:												
Filaree--------	0-2	Gravelly sandy loam	SM, GM, GC-GM, SC-SM	A-1, A-2	0-5	0-5	55-80	50-75	30-50	15-30	15-25	NP-5
	2-18	Gravelly sandy loam	SM, GM, GC-GM, SC-SM	A-1, A-2	0-5	0-5	55-80	50-75	30-50	15-30	15-25	NP-5
	18-34	Gravelly sandy loam	SM, GM, GC-GM, SC-SM	A-1, A-2	0-5	0-5	55-80	50-75	30-50	15-30	15-25	NP-5
	34-60	Gravelly sandy loam	SM, GM, GC-GM, SC-SM	A-1, A-2	0-5	0-5	55-80	50-75	30-50	15-30	15-25	NP-5
37:												
Filaree--------	0-2	Gravelly sandy loam	SM, GM, GC-GM, SC-SM	A-1, A-2	0	0	55-80	50-75	30-50	15-30	15-25	NP-5
	2-60	Gravelly sandy loam	SM, GM, GC-GM, SC-SM	A-1, A-2	0	0	55-80	50-75	30-50	15-30	15-25	NP-5
Dutchflat------	0-3	Sandy loam	SC-SM	A-2	0	0	85-100	80-100	50-70	25-35	20-25	NP-5
	3-7	Sandy loam	SC-SM	A-2	0	0	85-100	80-100	50-70	25-35	20-25	NP-5
	7-24	Gravelly sandy clay loam	SM	A-2	0	0	60-75	55-70	25-55	15-35	25-35	5-10
	24-39	Gravelly sandy loam	SM	A-2	0	0	60-80	55-75	50-75	20-35	25-30	NP-5
	39-60	Very gravelly loamy sand	GW-GM	A-1	0	0	35-45	30-40	15-30	5-10	10-15	NP

Table 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
38:												
Garnet---------	0-2	Gravelly sandy loam	SM	A-2	0	0	60-80	55-75	35-60	15-25	20-25	NP-5
	2-7	Sandy loam	SC-SM	A-2	0	0	85-100	80-100	50-70	25-35	20-25	NP-5
	7-11	Sandy clay loam	CL	A-6	0	0	90-100	85-100	70-95	50-80	30-40	10-15
	11-20	Sandy clay loam	CL	A-6	0	0	90-100	85-100	70-95	50-80	30-40	10-15
	20-23	Very gravelly sandy clay loam	GC-GM	A-2	0	0	60-70	30-45	15-45	10-35	15-20	5-10
	23-30	Extremely gravelly loamy sand	GW	A-1	0	0	30-50	15-25	10-20	0-5	10-15	NP-5
	30-60	Extremely gravelly sand	GW	A-1	0	0	20-30	15-25	10-20	1-5	0-10	NP
Dutchflat------	0-3	Sandy loam	SC-SM	A-2	0	0	85-100	80-100	50-70	25-35	20-25	NP-5
	3-7	Sandy loam	SC-SM	A-2	0	0	85-100	80-100	50-70	25-35	20-25	NP-5
	7-24	Gravelly sandy clay loam	SM	A-2	0	0	60-75	55-70	25-55	15-35	25-35	5-10
	24-39	Gravelly sandy loam	SM	A-2	0	0	60-80	55-75	50-75	20-35	25-30	NP-5
	39-60	Very gravelly loamy sand	GW-GM	A-1	0	0	35-45	30-40	15-30	5-10	10-15	NP
39:												
Goesling family--------	0-2	Silt loam	ML, CL-ML	A-4	0	0	80-100	75-100	70-100	50-90	15-25	NP-5
	2-15	Loam	CL-ML	A-4	0	0	80-100	75-100	65-95	45-90	20-30	5-10
	15-60	Clay loam	CL	A-6	0	0	80-100	75-100	70-100	50-80	30-35	10-15
40:												
Goldroad-------	0-2	Very cobbly sandy loam	GM	A-1	0	20-35	30-55	25-55	15-35	10-20	20-25	NP-5
	2-5	Very gravelly sandy loam	GC-GM, GM	A-1	0	0	30-55	25-50	15-35	10-20	20-25	NP-5
	5-6	Weathered bedrock			---	---	---	---	---	---	---	---
	>6	Unweathered bedrock			---	---	---	---	---	---	---	---
Rock outcrop---	---	---	---	---	---	---	---	---	---	---	---	---

Table 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
41:												
Goldroad-------	0-1	Very cobbly sandy loam	GM	A-1	0	20-35	30-55	25-55	15-35	10-20	20-25	NP-5
	1-8	Very cobbly coarse sandy loam	GM	A-1	0	20-35	30-55	25-55	15-35	10-20	20-25	NP-5
	>8	Unweathered bedrock			---	---	---	---	---	---	---	---
Rock outcrop---	---	---	---	---	---	---	---	---	---	---	---	---
42:												
Gonzales-------	0-1	Very cobbly sandy clay loam	GC, GC-GM, SC, SC-SM	A-2, A-4, A-6	0	35-45	65-75	55-65	45-60	25-45	25-35	5-15
	1-7	Clay	CH, CL	A-7	0	0-10	95-100	90-95	75-90	50-75	40-55	20-30
	7-14	Clay	CH, CL	A-7	0	0-10	95-100	90-95	75-90	50-75	40-55	20-30
	14-17	Weathered bedrock			---	---	---	---	---	---	---	---
	>17	Unweathered bedrock			---	---	---	---	---	---	---	---
Rock outcrop---	---	---	---	---	---	---	---	---	---	---	---	---
43:												
Goodsprings family--------	0-2	Gravelly sandy loam	SM, GC-GM, GM, SC-SM	A-1	0	0	60-70	55-65	30-45	15-25	15-30	NP-10
	2-18	Gravelly loam	GM, SM	A-4	0	0	60-75	55-70	45-65	35-50	15-30	NP-10
	18-39	Cemented			---	---	---	---	---	---	---	---
	39-60	Extremely gravelly loamy coarse sand	GP, GP-GM	A-1	0	0	20-30	15-25	5-20	0-5	10-15	NP-5

Table 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
44:												
Gotchell-------	0-2	Extremely gravelly sandy loam	GM	A-1	0	0-5	20-30	15-25	5-20	5-15	15-25	NP-5
	2-14	Extremely gravelly sandy loam	GM	A-1	0	0-5	20-30	15-25	5-20	5-15	15-25	NP-5
	14-28	Indurated			---	---	---	---	---	---	---	---
	>28	Unweathered bedrock			---	---	---	---	---	---	---	---
Sunstroke------	0-2	Extremely gravelly sandy loam	GW-GM	A-1	0	0-5	20-30	15-25	5-20	5-10	15-25	NP-5
	2-24	Extremely gravelly sandy loam	GW-GM	A-1	0	0-5	20-30	15-25	5-20	5-10	15-25	NP-5
	24-45	Indurated			---	---	---	---	---	---	---	---
	>45	Unweathered bedrock			---	---	---	---	---	---	---	---
45:												
Graham---------	0-2	Very cobbly loam	GC, GC-GM, GM	A-1, A-2, A-4	10-15	30-45	30-55	25-50	20-50	15-40	15-30	NP-10
	2-7	Clay loam	CL	A-6	0-5	0-10	80-100	75-100	70-100	50-80	30-35	10-15
	7-14	Clay	CH, CL	A-6, A-7	0	0-5	80-100	75-100	70-100	50-95	35-55	15-35
	>14	Unweathered bedrock			---	---	---	---	---	---	---	---
Arivaca--------	0-2	Very cobbly silty clay loam	CL, GC, GM, ML	A-1, A-2, A-4, A-6	0-10	25-55	30-80	25-75	20-75	20-70	0-40	NP-15
	2-6	Cobbly silty clay	CH, CL	A-6, A-7	0	30-50	80-100	75-100	70-100	65-95	35-65	15-45
	6-17	Clay	CH, CL	A-6, A-7	0	0	90-100	85-100	75-100	65-95	35-65	15-45
	17-30	Clay	CH, CL	A-6, A-7	0	0	90-100	85-100	75-100	65-95	35-65	15-45
	30-36	Clay loam	CL	A-6	0	0	90-100	85-100	75-100	60-80	25-40	10-20
	>36	Unweathered bedrock			---	---	---	---	---	---	---	---

Table 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
46:												
Graham---------	0-2	Very cobbly loam	GC, GC-GM, GM	A-1, A-2, A-4	10-15	30-45	30-55	25-50	20-50	15-40	15-30	NP-10
	2-7	Clay loam	CL	A-6	0-5	0-10	80-100	75-100	70-100	50-80	30-35	10-15
	7-14	Clay	CH, CL	A-6, A-7	0	0-5	80-100	75-100	70-100	50-95	35-55	15-35
	>14	Unweathered bedrock			---	---	---	---	---	---	---	---
Rock outcrop---	---	---	---	---	---	---	---	---	---	---	---	---
47:												
Grandwash------	0-1	Extremely flaggy sandy loam	GC-GM	A-1, A-2	10-25	70-85	20-35	15-30	10-20	5-10	20-30	5-10
	1-2	Channery fine sandy loam	GC, GC-GM, SC, SC-SM	A-1, A-2	0	0-10	60-70	55-65	40-55	20-35	20-30	5-10
	2-12	Extremely flaggy clay	CH, CL, GC	A-2, A-7	15-30	70-85	40-65	35-60	30-60	25-55	45-60	20-35
	>12	Unweathered bedrock			---	---	---	---	---	---	---	---
48:												
Greyeagle family--------	0-2	Extremely gravelly coarse sandy loam	GW-GM, GW	A-1	0-10	5-20	20-30	15-25	5-20	0-10	15-25	NP-5
	2-8	Extremely cobbly coarse sandy loam	SM	A-1	0	80-85	60-70	50-60	20-35	15-20	15-25	NP-5
	8-16	Extremely cobbly coarse sandy loam	SM	A-1	0	80-85	60-70	50-60	20-35	15-20	15-25	NP-5
	16-60	Indurated			---	---	---	---	---	---	---	---
49:												
Greyeagle family--------	0-2	Extremely gravelly sandy loam	GM	A-2	0-5	0-25	20-30	15-25	5-20	5-15	20-25	NP-10
	2-14	Extremely gravelly sandy loam	GM	A-2	0-5	0-25	20-30	15-25	5-20	5-15	20-25	NP-10
	14-60	Indurated			---	---	---	---	---	---	---	---

Table 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
50:												
Greyeagle family--------	0-2	Very gravelly coarse sandy loam	GM	A-1	0	0-25	40-55	35-50	10-15	10-15	15-20	NP
	2-12	Very gravelly coarse sandy loam	GM	A-1	0	0-25	30-55	25-50	15-35	10-20	20-25	NP-5
	12-60	Indurated			---	---	---	---	---	---	---	---
Cyclopic-------	0-2	Very gravelly sandy loam	GM, GC-GM	A-1	0-5	5-20	30-55	25-50	15-35	15-20	15-25	NP-5
	2-5	Extremely gravelly clay loam	GC	A-2	0-15	5-20	20-30	15-25	10-25	10-20	30-35	10-15
	5-16	Extremely gravelly clay	GC	A-2	0-15	5-20	20-30	15-25	10-20	10-15	50-70	30-45
	16-26	Very stony clay	CH	A-7	5-25	5-20	55-80	50-75	45-75	40-70	50-70	30-45
	26-60	Indurated			---	---	---	---	---	---	---	---
51:												
Greyeagle family--------	0-2	Very gravelly sandy loam	GM, GW-GM	A-1	0	0	35-50	30-45	15-45	5-15	15-20	NP-5
	2-8	Very gravelly sandy loam	GM, GW-GM	A-1	0	0	35-50	30-45	15-45	5-15	15-20	NP-5
	8-15	Very gravelly sandy loam	GM, GW-GM	A-1	0	0	35-50	30-45	15-45	5-15	15-20	NP-5
	15-60	Indurated			---	---	---	---	---	---	---	---
Skelon family--------	0-2	Very gravelly coarse sandy loam	GC, GC-GM	A-1, A-2	0	0	40-50	35-45	25-35	10-20	23-28	4-8
	2-11	Very gravelly coarse sandy loam	GC, GC-GM	A-1, A-2	0	0	40-50	35-45	25-35	10-20	23-28	4-8
	11-24	Very gravelly sandy clay loam	GC	A-2	0	0	35-50	30-45	25-40	20-35	30-35	5-15
	24-60	Indurated			---	---	---	---	---	---	---	---

Table 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
52:												
Greyeagle family	0-3	Extremely gravelly sandy loam	GM	A-2	0-5	0-25	20-30	15-25	5-20	5-15	20-25	NP-10
	3-12	Extremely gravelly sandy loam	GM	A-2	0-5	0-25	20-30	15-25	5-20	5-15	20-25	NP-10
	12-60	Indurated			---	---	---	---	---	---	---	---
Skelon Family	0-2	Very gravelly sandy loam	GM	A-1	0	0-15	35-50	30-45	20-40	10-25	20-25	NP-5
	2-13	Very gravelly sandy loam	GM	A-1	0	0-15	35-50	30-45	20-40	10-25	20-25	NP-5
	13-24	Extremely gravelly sandy loam	GM	A-2	0-5	0-35	20-30	15-25	5-20	5-15	20-25	NP-10
	24-60	Indurated			---	---	---	---	---	---	---	---
53:												
Gypsids	---	---	---	---	---	---	---	---	---	---	---	---
54:												
Haplogypsids, eroded	---	---	---	---	---	---	---	---	---	---	---	---
Haplogypsids	---	---	---	---	---	---	---	---	---	---	---	---
55:												
Hassell family	0-4	Loam	CL, CL-ML, SC-SM, SM	A-4	0	0-5	80-100	75-100	65-95	45-75	15-30	NP-10
	4-13	Clay	CH, CL	A-7	0	0	80-100	75-100	70-100	50-95	35-55	15-35
	13-24	Clay	CH, CL	A-7	0	0	80-100	75-100	70-100	50-95	35-55	15-35
	24-33	Gravelly clay loam	CL, GC, SC	A-6	0	0	55-80	50-75	45-75	35-60	32-40	10-15
	33-47	Weathered bedrock			---	---	---	---	---	---	---	---
	>47	Unweathered bedrock			---	---	---	---	---	---	---	---

Table 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
55:												
Lampshire------	0-1	Very gravelly loam	GC-GM, GM	A-1, A-2, A-4	0	0-5	30-55	20-50	20-50	15-40	15-25	NP-5
	1-6	Very gravelly sandy loam	GW-GM	A-1	0	0	40-50	35-45	15-20	5-15	15-25	NP-5
	6-9	Weathered bedrock			---	---	---	---	---	---	---	---
	>9	Unweathered bedrock			---	---	---	---	---	---	---	---
Rock outcrop---	---	---	---	---	---	---	---	---	---	---	---	---
56:												
Hindu----------	0-3	Extremely cobbly loam	GC, GC-GM	A-1, A-2	0-15	50-60	15-35	10-30	10-25	5-20	25-30	5-10
	3-9	Very gravelly loam	GM	A-4	0-5	0-15	35-55	30-50	25-50	15-45	30-40	5-10
	>9	Unweathered bedrock			---	---	---	---	---	---	---	---
Rock outcrop---	---	---	---	---	---	---	---	---	---	---	---	---
57:												
Hooks family---	0-3	Sandy loam	SC-SM	A-4	0	0	85-100	80-100	55-85	35-50	20-30	5-10
	3-17	Loam	CL-ML	A-4	0	0	85-100	80-100	65-95	50-75	20-30	5-10
	17-39	Loam	CL-ML	A-4	0	0	85-100	80-100	65-95	50-75	20-30	5-10
	39-55	Loam	CL-ML	A-4	0	0-10	85-100	80-100	65-95	50-75	20-30	5-10
	55-60	Loam	CL-ML	A-4	0	0	85-100	80-100	65-95	50-75	20-30	5-10
Courtland family--------	0-3	Sandy loam	SC-SM	A-2	0	0	85-100	80-95	55-70	25-35	20-30	5-10
	3-12	Sandy clay loam	SC	A-6	0	0	85-100	80-95	35-85	35-50	30-35	10-15
	12-36	Sandy loam	SC-SM	A-2	0	0	85-100	80-95	55-70	25-35	20-30	5-10
	36-44	Gravelly sandy clay loam	SC	A-2	0	0	55-80	50-75	45-60	20-35	35-45	15-20
	44-60	Gravelly sandy clay loam	SC	A-2	0	0	55-80	50-75	45-60	20-35	35-45	15-20

Table 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
58:												
Hosta family---	0-3	Sandy loam	SM	A-2	0	0	80-100	80-100	50-70	15-20	20-25	NP-5
	3-8	Loam	CL	A-6	0	0	90-100	85-100	60-100	55-90	30-40	15-20
	8-28	Clay	CH	A-7	0	0	90-100	85-100	45-100	45-100	50-60	35-40
	28-38	Silty clay	CH	A-7	0	0	100	100	95-100	90-95	55-60	30-40
	38-60	Clay loam	CL	A-6	0	0	90-100	85-100	45-100	45-80	40-50	25-30
59:												
House Mountain family--------	0-2	Very gravelly sandy loam	GW-GM	A-1	0	0	40-50	35-45	15-20	5-15	15-25	NP-5
	2-5	Gravelly sandy loam	SM	A-2	0	0	60-80	55-75	35-60	15-25	20-25	NP-5
	5-9	Weathered bedrock			---	---	---	---	---	---	---	---
	>9	Unweathered bedrock			---	---	---	---	---	---	---	---
Calvista family--------	0-2	Very gravelly loam	GC-GM, GM, GC	A-1, A-2	0	0-5	40-60	35-50	30-50	20-35	23-34	5-10
	2-10	Cobbly loam	GC	A-2	0	0-15	35-60	25-50	20-30	15-20	20-30	10-15
	>10	Unweathered bedrock			---	---	---	---	---	---	---	---
Rock outcrop---	---	---	---	---	---	---	---	---	---	---	---	---
60:												
Huevi----------	0-2	Extremely cobbly sandy loam	GP-GM	A-1	0-15	65-80	40-50	35-45	25-35	5-10	15-20	NP-5
	2-12	Gravelly sandy loam	SM	A-2	0	0-5	60-80	55-75	50-75	20-35	25-30	NP-5
	12-60	Extremely gravelly sandy loam	GW-GM	A-1	0-15	0	20-30	15-25	10-20	5-10	15-20	NP-5

Table 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
61:												
Huevi----------	0-2	Very gravelly loam	GM	A-1	0	0-5	40-60	35-50	30-45	20-25	15-25	NP-5
	2-9	Very gravelly sandy loam	GC-GM, GM	A-1	0	0-5	30-55	25-50	15-35	15-20	15-25	NP-5
	9-27	Very gravelly sandy loam	GC-GM, GM	A-1	0	0-5	30-55	25-50	15-35	15-20	15-25	NP-5
	27-40	Extremely gravelly sandy loam	GC-GM, GM, GW	A-1	0	0-5	20-30	15-25	5-20	0-15	15-25	NP-5
	40-60	Very gravelly loamy sand	GW-GM	A-1	0	0-5	30-55	25-50	10-40	5-15	10-20	NP-5
62:												
Huevi----------	0-2	Very gravelly sandy loam	GM	A-1	0	0-5	30-55	25-50	15-35	10-20	10-25	NP-5
	2-20	Extremely gravelly sandy loam	GW-GM	A-1	0	0-5	20-40	15-35	10-20	5-10	10-25	NP-5
	20-49	Extremely gravelly sandy loam	GW-GM	A-1	0	0-5	20-40	15-35	10-20	5-10	10-25	NP-5
	49-60	Extremely gravelly loamy sand	GW-GM	A-1	0	0-5	20-40	15-35	10-20	5-10	10-25	NP
63:												
Huevi----------	0-2	Extremely gravelly loam	GC, GC-GM	A-1, A-2	0	0	20-30	15-25	15-25	10-20	25-35	5-10
	2-9	Very gravelly sandy loam	GM	A-1	0	0-5	30-55	25-50	15-35	10-20	10-25	NP-5
	9-28	Very gravelly sandy loam	GM	A-1	0	0-5	30-55	25-50	15-35	10-20	10-25	NP-5
	28-40	Extremely gravelly loamy sand	GM	A-1	0	0	15-30	10-25	5-20	5-15	20-25	NP-5
	40-60	Very gravelly loamy sand	GW-GM	A-1	0	0	35-45	30-40	15-30	5-10	10-15	NP

Table 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
63:												
Carrizo--------	0-1	Extremely gravelly sandy loam	GM	A-2, A-1	0	0-10	25-35	20-30	15-30	5-20	20-30	NP-10
	1-10	Extremely gravelly loamy sand	GW-GM	A-1	0	0	20-30	15-25	10-20	5-10	10-25	NP
	10-60	Extremely gravelly loamy sand	GW-GM	A-1	0	0	20-30	15-25	10-20	5-10	10-25	NP
64:												
Huevi----------	0-3	Extremely gravelly sandy loam	GW-GM	A-1	0	0	20-30	15-25	10-20	5-10	15-20	NP-5
	3-7	Extremely gravelly sandy loam	GW-GM	A-1	0	0	20-30	15-25	10-20	5-10	15-20	NP-5
	7-36	Extremely gravelly sandy loam	GW-GM	A-1	0	0	20-30	15-25	10-20	5-10	15-20	NP-5
	36-52	Extremely gravelly sandy loam	GW-GM	A-1	0	0	20-30	15-25	10-20	5-10	15-20	NP-5
	52-60	Extremely gravelly loamy sand	GM	A-1	0	0	15-30	10-25	5-20	5-15	20-25	NP-5
Carrwash-------	0-60	Extremely gravelly sand	GW	A-1	0	0-5	20-30	15-25	10-20	1-5	0-10	NP
65:												
Huevi----------	0-2	Extremely cobbly sandy loam	GP-GM	A-1	0-15	70-85	40-50	35-45	25-35	5-10	15-20	NP-5
	2-40	Extremely cobbly loam	GW-GM	A-1	0-15	70-85	35-45	15-35	10-20	5-10	20-25	NP-5
	40-60	Extremely cobbly sandy loam	GP-GM	A-1	0-15	70-85	40-50	35-45	25-35	5-10	15-20	NP-5

Table 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
65:												
Sunrock--------	0-1	Extremely stony sandy loam	GM, GC-GM	A-1	35-55	0-10	30-55	25-50	15-35	10-20	20-25	NP-5
	1-10	Very gravelly sandy loam	GM	A-1	0	0	30-55	25-50	15-35	10-20	20-25	NP-5
	>10	Unweathered bedrock			---	---	---	---	---	---	---	---
Rock outcrop---	---	---	---	---	---	---	---	---	---	---	---	---
66:												
Hulda----------	0-3	Extremely gravelly sandy loam	GW-GM, GW	A-1	0	0-5	20-30	15-25	5-20	0-10	15-25	NP-5
	3-8	Very gravelly sandy loam	GC-GM, GM	A-1	0	0-5	30-55	25-50	15-35	15-35	15-25	NP-5
	>8	Unweathered bedrock			---	---	---	---	---	---	---	---
67:												
Hulda----------	0-1	Extremely cobbly sandy loam	GW-GM	A-1	0-20	40-55	30-55	25-50	15-30	5-15	15-25	NP-5
	1-6	Very gravelly sandy loam	GC-GM, GM	A-1	0	0-5	30-55	25-50	15-35	15-35	15-25	NP-5
	>6	Unweathered bedrock			---	---	---	---	---	---	---	---
Rock outcrop---	---	---	---	---	---	---	---	---	---	---	---	---
68:												
Hulda----------	0-2	Extremely stony coarse sandy loam	GM	A-2	30-80	20-50	55-80	50-75	40-60	25-35	20-30	NP-5
	2-5	Extremely stony coarse sandy loam	GM	A-2	30-80	20-50	55-80	50-75	40-60	25-35	20-30	NP-5
	>5	Unweathered bedrock			---	---	---	---	---	---	---	---
Rock outcrop---	---	---	---	---	---	---	---	---	---	---	---	---

Table 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
69:												
Ireteba family--------	0-2	Gravelly sandy loam	GC-GM, GM, SC-SM, SM	A-1, A-2	0	0	55-80	50-75	30-50	15-30	15-25	NP-5
	2-10	Sandy loam	SC-SM, SM	A-1, A-2, A-4	0	0	80-100	75-100	45-70	20-40	15-25	NP-5
	10-19	Gravelly sandy loam	GC-GM, GM, SC-SM, SM	A-1, A-2	0	0	55-80	50-75	30-50	15-30	15-25	NP-5
	19-31	Gravelly sandy loam	GC-GM, GM, SC-SM, SM	A-1, A-2	0	0	55-80	50-75	30-50	15-30	15-25	NP-5
	31-41	Gravelly coarse sandy loam	GC-GM, GM, SC-SM	A-1	0	0	55-80	50-75	25-45	10-20	15-25	NP-5
	41-60	Very gravelly loamy sand	GC-GM	A-1	0	0	30-55	25-50	10-30	5-15	10-20	NP-5
Arizo----------	0-2	Gravelly sandy loam	GC-GM, GM, SC-SM, SM	A-1, A-2	0	0	55-80	50-75	30-50	15-30	15-25	NP-5
	2-11	Gravelly sandy loam	GC-GM, GM, SC-SM, SM	A-1, A-2	0	0	55-80	50-75	30-50	15-30	15-25	NP-5
	11-15	Sandy loam	SC-SM, SM	A-1, A-2, A-4	0	0	80-100	75-100	45-70	20-40	15-25	NP-5
	15-35	Extremely gravelly loamy sand	GW, GW-GC	A-1, A-2	0	0	20-30	15-25	5-20	0-10	15-30	NP-10
	35-60	Very gravelly loamy coarse sand	GW, GW-GC	A-1, A-2	0	0	30-55	25-50	10-25	0-10	15-30	NP-10
70:												
Jagerson-------	0-2	Gravelly sandy clay loam	SM	A-2	0	0	60-75	55-70	25-55	15-35	25-35	5-10
	2-9	Gravelly sandy clay loam	SM	A-2	0	0	60-75	55-70	25-55	15-35	25-35	5-10
	9-18	Clay loam	CL	A-6	0	0	90-100	85-100	75-100	60-80	25-40	10-20
	18-42	Very gravelly sandy loam	GC-GM, GM	A-1	0	0-5	30-55	25-50	15-35	15-35	15-25	NP-5
	42-60	Extremely gravelly loamy coarse sand	GW	A-1	0-20	5-20	20-35	15-30	5-20	0-5	10-25	NP-5

Table 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
71:												
Jagerson-------	0-2	Gravelly sandy clay loam	SC, GC, SC-SM, GC-GM	A-6, A-4, A-2, A-1	0-10	0-10	55-80	50-75	40-70	20-40	25-30	5-15
	2-9	Gravelly sandy clay loam	GC-GM, GC, SC, SC-SM	A-6, A-4, A-2, A-1	0-10	0-10	55-80	50-75	40-70	20-40	30-40	5-15
	9-18	Clay loam	CL	A-6	0-10	0-10	80-100	75-100	70-100	50-80	30-40	10-15
	18-42	Very gravelly sandy loam	GM, GC-GM	A-1	0-10	0-10	30-55	25-50	15-35	15-20	15-25	NP-5
	42-60	Extremely gravelly loamy coarse sand	GW	A-1	0-20	5-20	20-35	15-30	5-20	0-5	10-25	NP-5
Nealy----------	0-2	Gravelly sandy clay loam	SM	A-2	0	0	60-75	55-70	25-55	15-35	25-35	5-10
	2-14	Gravelly sandy loam	SM, SC-SM	A-1, A-2	0	0	55-80	50-75	30-50	15-30	20-25	NP-5
	14-33	Gravelly sandy clay loam	SC-SM, SC	A-1, A-2, A-6, A-4	0	0	55-80	50-75	40-70	20-40	25-35	5-15
	33-48	Indurated			---	---	---	---	---	---	---	---
	48-60	Extremely gravelly sand	GW	A-1	0	0-10	20-30	15-25	10-20	1-5	0-0	NP
72:												
Kingtut--------	0-2	Very gravelly sandy loam	GM	A-1	0	0	30-55	25-50	15-35	10-20	20-25	NP-5
	2-4	Gravelly sandy clay loam	SC, SC-SM	A-6, A-4, A-2	0	0	55-80	50-75	40-70	20-40	25-35	5-15
	4-17	Gravelly sandy clay	CL	A-7	0	0	55-80	50-75	45-75	40-70	40-50	20-30
	17-33	Cemented			---	---	---	---	---	---	---	---
	>33	Unweathered bedrock			---	---	---	---	---	---	---	---
Promontory-----	0-2	Gravelly sandy loam	SM	A-2, A-1	0	0	40-80	35-75	30-50	15-30	10-25	NP-5
	2-12	Gravelly sandy clay loam	SC, SC-SM	A-6, A-4, A-2, A-1	0	0	55-80	50-75	40-70	20-40	25-35	5-15
	12-17	Gravelly sandy clay loam	SC, SC-SM	A-6, A-4, A-2, A-1	0	0	55-80	50-75	40-70	20-40	25-35	5-15
	17-19	Cemented			---	---	---	---	---	---	---	---
	>19	Unweathered bedrock			---	---	---	---	---	---	---	---

Table 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
73:												
Kinley---------	0-2	Gravelly loamy sand	GC, GM, SC-SM	A-1, A-2	0	0	55-80	50-75	25-55	10-20	0-30	NP-10
	2-9	Sandy loam	SC-SM, SM	A-1, A-2, A-4	0	0	80-100	75-100	45-70	20-40	15-25	NP-5
	9-13	Sandy loam	SC-SM, SM	A-1, A-2, A-4	0	0	80-100	75-100	45-70	20-40	15-25	NP-5
	13-24	Sandy loam	SC-SM, SM	A-1, A-2, A-4	0	0	80-100	75-100	45-70	20-40	15-25	NP-5
	24-34	Gravelly sandy loam	SC-SM, SM, GC-GM, GM	A-1, A-2	0	0	55-80	50-75	30-50	15-30	15-25	NP-5
	34-50	Very gravelly sandy loam	GC-GM, GM	A-1	0	0	35-55	25-50	15-35	15-20	15-25	NP-5
	50-60	Very gravelly sandy loam	GC-GM, GM	A-1	0	0	35-55	25-50	15-35	15-20	15-25	NP-5
74:												
Kurstan family--------	0-2	Sandy loam	SM	A-2	0	0	90-100	85-95	50-70	10-15	20-25	NP-5
	2-19	Sandy loam	SM	A-2	0	0	90-100	85-95	50-70	10-15	20-25	NP-5
	19-45	Sandy loam	SM	A-2	0	0	90-100	85-95	50-70	10-15	20-25	NP-5
	45-60	Sandy loam	SM	A-2	0	0	90-100	85-95	50-70	10-15	20-25	NP-5
Dusty----------	0-2	Sandy loam	SM, SC-SM	A-4, A-2	0	0	95-100	90-100	55-70	25-40	15-25	NP-5
	2-6	Loam	ML, CL-ML	A-4	0	0	95-100	90-100	75-95	55-75	15-25	NP-5
	6-10	Loam	ML, CL-ML	A-4	0	0	95-100	90-100	75-95	55-75	15-25	NP-5
	10-19	Clay loam	CL	A-6	0	0	95-100	90-100	80-100	65-80	30-35	10-15
	19-24	Sandy clay loam	SC-SM, CL, CL-ML, SC	A-6, A-4, A-2	0	0	95-100	90-100	70-90	30-55	25-35	5-15
	24-31	Sandy clay loam	SC-SM, CL, CL-ML, SC	A-6, A-4, A-2	0	0	95-100	90-100	70-90	30-55	25-35	5-15
	31-50	Clay loam	CL	A-6	0	0	95-100	90-100	80-100	65-80	30-35	10-15
	50-60	Sandy loam	SC-SM, SM	A-2, A-4	0	0	95-100	90-100	55-70	25-40	15-25	NP-5
75:												
Lampshire------	0-1	Gravelly coarse sandy loam	SC-SM, SM	A-2, A-1	0	0	55-80	50-75	25-45	15-30	20-25	NP-5
	1-6	Very gravelly sandy loam	SM	A-1	0	0-5	50-60	40-50	23-35	10-20	15-25	NP-5
	6-17	Weathered bedrock			---	---	---	---	---	---	---	---
	>17	Unweathered bedrock			---	---	---	---	---	---	---	---
Rock outcrop---	---	---	---	---	---	---	---	---	---	---	---	---

Table 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
76:												
Lostman--------	0-2	Gravelly sandy loam	SM	A-2	0	0	60-80	55-75	35-60	15-25	20-25	NP-5
	2-36	Gravelly sandy loam	SM	A-2	0	0	60-80	55-75	35-60	15-25	20-25	NP-5
	36-56	Very gravelly loamy coarse sand	GM, GW-GM	A-1	0	0	40-49	30-45	20-30	5-15	10-15	NP
	56-60	Gravelly sandy clay loam	GC	A-6	0	0	60-80	55-75	40-50	35-45	30-35	10-15
77:												
Lostman--------	0-2	Sandy loam	SM	A-2	0	0	80-100	80-100	50-70	15-20	20-25	NP-5
	2-42	Gravelly sandy loam	SM	A-2	0	0	60-80	55-75	35-60	15-25	20-25	NP-5
	42-60	Gravelly sandy clay loam	GC	A-6	0	0	60-80	55-75	40-50	35-45	30-35	10-15
78:												
Luzena---------	0-1	Extremely cobbly loam	GC, GC-GM	A-1, A-2	0-15	50-60	15-35	10-30	10-25	5-20	25-30	5-10
	1-2	Extremely cobbly clay loam	GC, GC-GM, SC, SC-SM	A-1, A-2	0-15	50-60	40-70	35-65	30-60	15-35	25-40	5-15
	2-14	Clay	CH	A-7	0	0-15	85-100	85-100	85-100	75-95	50-60	30-35
	>14	Unweathered bedrock			---	---	---	---	---	---	---	---
Thunderbird----	0-2	Very cobbly fine sandy loam	GC, SC	A-2	5-15	20-30	60-65	55-60	40-50	20-35	26-28	7-8
	2-6	Cobbly loam	CL	A-6	0-10	10-20	90-95	85-90	75-85	55-70	28-34	10-15
	6-11	Clay loam, clay	CL	A-7	0	0-5	95-100	90-100	85-100	70-90	40-50	20-30
	11-24	Cobbly clay	CL, CH	A-7	0-10	10-20	90-95	85-90	75-90	65-85	45-55	25-35
	24-34	Unweathered bedrock			---	---	---	---	---	---	---	---

Table 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
79:												
Lykorly--------	0-1	Gravelly loam	CL, SC	A-4, A-6	0	0	75-80	70-75	60-70	45-55	28-34	8-11
	1-2	Loam	CL	A-6	0	0	90-100	85-100	60-100	55-90	30-40	15-20
	2-4	Loam	CL	A-6	0	0	90-100	85-100	60-100	55-90	30-40	15-20
	4-11	Clay loam	CL	A-6	0	0	90-100	85-100	75-100	55-90	30-40	10-15
	11-25	Clay loam	CL	A-6	0	0	90-100	85-100	75-100	55-90	30-40	10-15
	25-31	Loam	CL	A-6	0	0	90-100	85-100	60-100	55-90	30-40	15-20
	31-44	Loam	CL	A-6	0	0	90-100	85-100	60-100	55-90	30-40	15-20
	44-60	Clay	CH, CL	A-6, A-7	0	0	90-100	85-100	75-100	55-95	30-55	10-35
80:												
Lykorly--------	0-8	Silt loam	CL	A-4, A-6	0	0	95-100	90-100	75-100	60-90	28-34	8-11
	8-60	Silt loam	CL	A-4, A-6	0	0	95-100	90-100	75-100	60-90	28-34	8-11
81:												
Manikan--------	0-3	Sandy loam	SC-SM, SM	A-2, A-4, A-1	0	0	80-100	75-100	45-70	20-40	15-25	NP-5
	3-24	Sandy clay loam	SC-SM, CL, CL-ML, SC	A-4, A-2	0	0	95-100	90-100	70-90	30-55	25-30	5-10
	24-39	Sandy clay loam	SC-SM, CL, CL-ML, SC	A-4, A-2	0	0	95-100	90-100	70-90	30-55	25-30	5-10
	39-60	Loam	CL-ML	A-4	0	0	95-100	95-100	85-95	60-75	25-30	5-10
Nuffel---------	0-6	Silty clay loam	CL	A-6	0	0	100	100	95-100	70-90	25-30	20-25
	6-14	Silty clay loam	CL	A-6	0	0	100	100	95-100	70-90	25-30	20-25
	14-25	Silt loam	CL, CL-ML	A-4	0	0	100	95-100	80-100	65-90	25-30	5-10
	25-60	Silty clay loam	CL	A-6	0	0	100	100	95-100	70-90	25-30	20-25
82:												
Mathis family--------	0-2	Extremely cobbly sandy loam	SC-SM	A-2, A-1	20-30	50-70	55-80	50-75	30-50	15-30	20-25	NP-5
	2-60	Extremely cobbly sand	SP, SP-SM	A-1	20-30	50-70	55-80	50-75	25-50	2-10	20-25	NP
Riverwash------	---	---	---	---	---	---	---	---	---	---	---	---

Table 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
83:												
Mayswell-------	0-2	Cobbly clay loam	CL	A-6	0	15-25	95-100	85-100	80-100	65-80	30-35	10-15
	2-4	Cobbly clay loam	CL	A-6	0	15-25	95-100	85-100	80-100	65-80	30-35	10-15
	4-9	Very cobbly clay loam	SC, GC	A-6	0	30-50	55-80	50-75	45-75	35-50	30-35	10-15
	9-19	Very cobbly clay	CH, SC, GC, CL	A-7	0	25-50	55-80	50-75	45-70	40-70	40-60	15-40
	>19	Unweathered bedrock			---	---	---	---	---	---	---	---
Rock outcrop---	---	---	---	---	---	---	---	---	---	---	---	---
84:												
Meadview-------	0-2	Extremely gravelly sandy loam	GC, GC-GM	A-1, A-2	0-10	10-55	35-50	30-45	5-40	5-35	25-40	5-15
	2-9	Extremely gravelly sandy loam	GC, GC-GM	A-1, A-2	0-10	10-55	35-50	30-45	5-40	5-35	25-40	5-15
	9-21	Extremely gravelly sandy loam	GC, GC-GM	A-1, A-2	0-10	10-55	35-50	30-45	5-40	5-35	25-40	5-15
	21-36	Very gravelly coarse sand	GC-GM	A-1	0-10	10-55	20-50	15-45	10-35	1-5	10-15	NP-5
	36-60	Extremely cobbly coarse sand	GC-GM	A-1	0-10	40-55	20-50	15-45	10-35	1-5	10-15	NP-5

Table 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
85:												
Meadview-------	0-2	Very cobbly sandy loam	SM, SC-SM, GC-GM, GM	A-2, A-1	0-10	25-50	55-80	50-75	30-50	15-30	15-25	NP-5
	2-10	Very cobbly sandy loam	SM, SC-SM, GC-GM, GM	A-2, A-1	0-10	25-50	55-80	50-75	30-50	15-30	15-25	NP-5
	10-21	Very cobbly sandy loam	SM, SC-SM, GC-GM, GM	A-2, A-1	0-10	25-50	55-80	50-75	30-50	15-30	15-25	NP-5
	21-31	Extremely gravelly coarse sand	GC-GM	A-1	0-10	15-30	20-45	15-35	10-35	1-5	15-20	NP
	31-42	Extremely gravelly coarse sand	GC-GM	A-1	0-10	15-30	20-45	15-35	10-35	1-5	15-20	NP
	42-52	Extremely gravelly coarse sand	GC-GM	A-1	0-10	15-30	20-45	15-35	10-35	1-5	15-20	NP
	52-60	Extremely gravelly coarse sand	GC-GM	A-1	0-10	15-30	20-45	15-35	10-35	1-5	15-20	NP
Yurm family----	0-2	Very gravelly sandy loam	GM	A-1	0-5	0-20	35-50	30-45	15-35	10-20	10-25	NP
	2-11	Very gravelly sandy loam	GM	A-1	0-5	0-20	35-50	30-45	15-35	10-20	10-25	NP
	>11	Indurated			---	---	---	---	---	---	---	---
86:												
Meriwhitica----	0-1	Very gravelly sandy loam	GC-GM, GM	A-1	0	0-5	40-50	35-45	15-30	5-15	15-25	NP-5
	1-6	Very gravelly sandy loam	GC-GM, GM	A-1	0	0-5	40-50	35-45	15-30	5-15	15-25	NP-5
	>6	Unweathered bedrock			---	---	---	---	---	---	---	---
Rock outcrop---	---	---	---	---	---	---	---	---	---	---	---	---

Table 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
87:												
Mextank--------	0-2	Very gravelly sandy loam	GM	A-1	0	0	35-50	30-45	15-35	10-20	10-25	NP
	2-11	Very gravelly sandy clay loam	GC-GM	A-2	0	0	60-70	30-45	15-45	10-35	15-20	5-10
	11-28	Extremely gravelly sandy loam	GC-GM	A-1	0	0	15-30	10-25	5-15	5-10	20-25	NP-5
	28-46	Extremely gravelly sandy loam	GC-GM	A-1	0	0	15-30	10-25	5-15	5-10	20-25	NP-5
	46-60	Extremely gravelly sandy loam	GC-GM	A-1	0	0	15-30	10-25	5-15	5-10	20-25	NP-5
88:												
Milkweed-------	0-2	Extremely gravelly loam	GM, GC-GM	A-1, A-2	0	0-5	10-30	5-25	5-20	3-15	25-35	5-10
	2-11	Very gravelly loam, very gravelly fine sandy loam	GC, GC-GM, GM	A-1, A-2	0	0-10	35-50	30-45	25-40	20-30	25-35	5-10
	11-28	Cemented			---	---	---	---	---	---	---	---
	28-60	Indurated			---	---	---	---	---	---	---	---
Quartermaster--	0-2	Extremely gravelly sandy loam	GW-GM, GC-GM	A-1	0	0	10-30	5-25	5-15	2-10	21-26	NP-5
	2-19	Loam	CL	A-6	0	0	85-100	80-95	75-90	55-70	26-34	10-15
	19-26	Cobbly loam	CL	A-6	0	15-30	75-95	70-90	65-80	50-65	26-34	10-15
	26-36	Indurated			---	---	---	---	---	---	---	---

Table 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
88:												
Buckndoe-------	0-2	Very gravelly sandy loam	GC, GC-GM	A-1, A-2	0	0-5	35-50	30-45	20-30	10-15	25-30	5-10
	2-16	Gravelly sandy loam, gravelly fine sandy loam, gravelly loam	GC, GC-GM, SC, SC-SM	A-1, A-2, A-4	0	0-10	60-75	55-70	35-65	15-50	25-30	5-10
	16-26	Very cobbly fine sandy loam	GC, GC-GM	A-1, A-2	0	20-30	50-55	45-50	30-45	15-30	25-30	5-10
	26-42	Very cobbly fine sandy loam	GC, GC-GM, SC, SC-SM	A-1, A-2	0-10	30-50	50-65	45-60	35-50	20-30	25-30	5-10
	42-52	Cemented			---	---	---	---	---	---	---	---
89:												
Milok----------	0-2	Gravelly sandy loam	GC-GM, SC-SM	A-1, A-2	0	0-5	55-80	50-75	30-50	15-30	20-30	5-10
	2-6	Gravelly sandy loam	GC-GM, SC-SM	A-1, A-2	0	0-5	55-80	50-75	30-50	15-30	20-30	5-10
	6-25	Gravelly sandy loam	GC-GM, SC-SM	A-1, A-2	0	0-5	55-80	50-75	30-50	15-30	20-30	5-10
	25-37	Gravelly loam	CL, CL-ML, SC, SC-SM	A-2, A-4	0	0-5	55-80	50-75	40-70	30-55	20-30	5-10
	37-60	Loam	CL, CL-ML, SC, SC-SM	A-4	0	0	80-100	75-100	65-95	45-75	20-30	5-10
Pastern--------	0-2	Gravelly sandy loam	SC-SM, SM	A-1	0	0	80-100	50-75	35-45	15-20	20-25	NP-5
	2-11	Gravelly loam	SC-SM	A-1, A-2	0	0	80-100	50-75	45-60	15-20	25-30	5-10
	11-21	Cemented			---	---	---	---	---	---	---	---
	21-60	Extremely gravelly sandy loam	SP-SM	A-1	0	0-5	50-90	10-25	10-20	5-10	20-25	NP-5

Table 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
90:												
Mutang---	0-1	Gravelly sandy loam	SM	A-2	0	0	60-80	55-75	35-60	15-25	20-25	NP-5
	1-5	Loam	ML	A-4	0	0-5	85-100	80-100	70-95	50-75	25-30	NP-5
	5-15	Gravelly clay	CH	A-7	0	0-15	70-80	65-75	50-70	50-60	50-60	30-40
	15-22	Weathered bedrock			---	---	---	---	---	---	---	---
	>22	Unweathered bedrock			---	---	---	---	---	---	---	---
Dutchflat---	0-4	Sandy loam	SC-SM, SM	A-2, A-4	0	0	90-100	85-100	50-70	25-40	15-25	NP-5
	4-37	Sandy clay loam	CL, CL-ML, SC, SC-SM	A-2, A-4, A-6	0	0	90-100	85-100	70-90	30-55	15-35	5-15
	37-60	Coarse sandy loam	SC-SM, SM	A-1, A-2	0	0	90-100	85-100	45-65	20-35	15-25	NP-5
91:												
Mutang---	0-1	Gravelly sandy loam	SM	A-2	0	0	60-80	55-75	35-60	15-25	20-25	NP-5
	1-5	Loam	ML	A-4	0	0-5	85-100	80-100	70-95	50-75	25-30	NP-5
	5-15	Gravelly clay	CH	A-7	0	0-15	70-80	65-75	50-70	50-60	50-60	30-40
	15-22	Weathered bedrock			---	---	---	---	---	---	---	---
	>22	Unweathered bedrock			---	---	---	---	---	---	---	---
Wikieup---	0-3	Extremely gravelly loam	GW-GM	A-1	0	0	20-35	15-25	5-15	5-10	20-25	NP-10
	3-7	Very gravelly loam	GM	A-1	0	0	40-60	35-50	30-45	20-25	15-25	NP-5
	7-9	Weathered bedrock			---	---	---	---	---	---	---	---
	>9	Unweathered bedrock			---	---	---	---	---	---	---	---
Rock outcrop---	---	---	---	---	---	---	---	---	---	---	---	---

Table 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
92:												
Nealy	0-2	Gravelly sandy loam	SM, SC-SM	A-1, A-2	0	0	55-80	50-75	30-50	15-30	20-25	NP-5
	2-5	Loam	ML	A-4	0	0-5	85-100	80-100	70-95	50-75	25-30	NP-5
	5-17	Loam	ML	A-4	0	0-5	85-100	80-100	70-95	50-75	25-30	NP-5
	17-23	Loam	ML	A-4	0	0-5	85-100	80-100	70-95	50-75	25-30	NP-5
	23-60	Indurated			---	---	---	---	---	---	---	---
Shamock family	0-3	Gravelly sandy loam	SM	A-2	0	0	55-80	50-75	30-50	15-30	10-25	NP-5
	3-23	Loam	CL-ML	A-4	0	0	80-100	75-100	65-95	45-75	20-25	5-10
	23-60	Indurated			---	---	---	---	---	---	---	---
93:												
Nealy	0-2	Gravelly coarse sandy loam	SC-SM, SM	A-2, A-1	0	0	55-80	50-75	25-45	15-30	20-25	NP-5
	2-14	Gravelly sandy loam	SM, SC-SM	A-1, A-2	0	0	55-80	50-75	30-50	15-30	20-25	NP-5
	14-33	Gravelly sandy clay loam	SC-SM, SC	A-1, A-2, A-6, A-4	0	0	55-80	50-75	40-70	20-40	25-35	5-15
	33-48	Indurated			---	---	---	---	---	---	---	---
	48-60	Extremely gravelly sand	GW	A-1	0	0-10	20-30	15-25	10-20	1-5	0-0	NP
Skelon family	0-2	Very gravelly sandy loam	GM	A-1	0	0-15	35-50	30-45	20-40	10-25	20-25	NP-5
	2-10	Gravelly sandy loam	SM	A-2	0	0-15	60-80	55-75	35-60	15-25	20-25	NP-5
	10-36	Very gravelly sandy loam	GM	A-1	0	0-15	35-50	30-45	20-40	10-25	20-25	NP-5
	36-54	Indurated			---	---	---	---	---	---	---	---
	54-60	Extremely gravelly loamy sand	GW	A-1	0	0	30-50	15-25	10-20	0-5	10-15	NP-5

Table 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
93:												
Detrital-------	0-2	Gravelly sandy loam	SC-SM, SM	A-2, A-1	0	0	55-80	50-75	30-50	15-30	20-25	NP-5
	2-17	Very gravelly sandy loam	GC-GM, GM	A-1	0	0	30-55	25-50	15-35	10-20	20-25	NP-5
	17-34	Very gravelly sandy loam	GC-GM, GM	A-1	0	0	30-55	25-50	15-35	10-20	20-25	NP-5
	34-60	Very gravelly sandy loam	GC-GM, GM	A-1	0	0	30-55	25-50	15-35	10-20	20-25	NP-5
94:												
Nickel family--------	0-2	Very gravelly sandy loam	GM	A-1	0	0	30-55	25-50	15-35	10-20	10-25	NP-5
	2-7	Very gravelly sandy loam	GC-GM	A-2	0	0	60-70	30-45	15-45	10-35	15-20	5-10
	7-25	Extremely gravelly sandy loam	GM, GW-GM	A-1	0	0	20-40	15-30	10-20	5-15	15-25	NP-5
	25-35	Very gravelly sandy loam	GM	A-1	0	0	30-55	25-50	15-35	10-20	10-25	NP-5
	35-60	Extremely gravelly sandy loam	GM, GW-GM	A-1	0	0-50	20-40	15-30	10-20	5-15	15-25	NP-5
Bluebird-------	0-2	Very gravelly sandy clay loam	GC, GC-GM	A-2, A-1	0-5	5-20	30-55	25-50	25-45	10-30	25-30	5-10
	2-16	Extremely gravelly sandy clay loam	GC-GM	A-1	0-10	5-20	20-30	15-25	10-20	5-15	25-30	5-10
	16-42	Extremely gravelly coarse sandy loam	GW-GM, GW	A-1	0-10	5-20	20-30	15-25	5-20	0-10	15-25	NP-5
	42-60	Very gravelly sandy clay loam	GC, GC-GM	A-1, A-2	0-10	5-20	35-55	25-50	25-45	10-30	25-30	5-10

Table 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
95:												
Nickel---------	0-2	Extremely gravelly sandy loam	GW-GM	A-1	0	0	20-30	15-25	10-20	5-10	10-25	NP-5
	2-5	Gravelly sandy loam	SM	A-1, A-2	0	0	55-80	50-70	30-50	15-30	10-25	NP-5
	5-36	Very gravelly sandy loam	GM	A-1	0	0	35-50	30-45	15-35	10-20	10-25	NP-5
	36-60	Very gravelly loamy sand	GW-GM, GM, SW-SM, SM	A-1	0	0	30-55	20-50	10-30	5-15	10-25	NP
Skelon family--------	0-2	Very gravelly sandy loam	GW-GM	A-1	0	0	25-55	20-50	10-35	5-20	10-25	NP-5
	2-15	Very gravelly sandy loam	GW-GM	A-1	0	0	25-55	20-50	10-35	5-20	10-25	NP-5
	15-35	Extremely gravelly sandy loam	GM	A-2	0	0	20-30	15-25	5-20	5-15	20-25	NP-10
	35-60	Indurated			---	---	---	---	---	---	---	---
Detrital-------	0-1	Very gravelly sandy loam	GC-GM, GM	A-1	0	0	30-55	25-50	15-35	10-20	20-25	NP-5
	1-60	Very gravelly sandy loam	GC-GM, GM	A-1	0	0	30-55	25-50	15-35	10-20	20-25	NP-5
96:												
Nickel family--------	0-3	Very gravelly loamy sand	GC-GM	A-1	0	0-20	30-55	25-50	10-40	5-15	10-20	NP-5
	3-7	Very gravelly sandy clay loam	GC, GC-GM	A-1, A-2	0	0-15	30-55	25-50	25-45	10-30	25-30	5-10
	7-26	Very gravelly loam	GC-GM, GM	A-1, A-2, A-4	0	0-5	30-55	25-50	20-50	15-40	15-25	NP-5
	26-60	Very gravelly sandy loam	GC-GM, GM	A-1	0	0-5	30-55	25-50	15-35	15-20	15-25	NP-5

Table 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
96:												
Topawa family--------	0-3	Very gravelly loamy sand	GC, GC-GM	A-1, A-2	0	0	30-55	25-50	10-40	5-15	0-30	NP-10
	3-18	Very gravelly sandy clay loam	GC	A-2	0	0	30-55	25-50	25-45	10-30	30-35	10-15
	18-50	Very gravelly sandy loam	GC-GM, GM	A-1	0	0	30-55	25-50	15-35	15-20	20-25	NP-5
	50-58	Gravelly loamy sand	GM, SC-SM, SM	A-1, A-2	0	0	55-80	50-75	25-55	10-20	10-20	NP-5
	58-60	Gravelly loam	SC, SC-SM, CL, GC	A-2, A-4	0	0	55-80	50-75	40-70	30-55	25-30	5-10
Eba family-----	0-1	Very gravelly sandy loam	GC-GM, GM	A-1	0	0-15	30-55	25-50	15-30	5-15	15-25	NP-5
	1-8	Very gravelly clay	GC	A-2, A-7	0	0-15	30-55	25-50	25-50	20-50	35-55	15-35
	8-32	Very gravelly clay	GC	A-2, A-7	0	0-15	30-55	25-50	25-50	20-50	35-55	15-35
	32-52	Very gravelly sandy clay	GC	A-2	0	0-25	30-55	25-50	20-50	15-30	35-55	15-35
	52-60	Very gravelly loam	GC, GC-GM	A-1, A-2, A-4	0	0-15	30-55	25-50	20-50	15-40	25-30	5-10
97:												
Nodman---------	0-2	Very gravelly sandy clay loam	GC-GM	A-2	0	0-5	60-70	30-45	15-45	10-35	15-20	5-10
	2-15	Very gravelly sandy clay loam	GC	A-1, A-2	0	0-5	30-55	25-50	25-45	10-30	30-40	5-15
	15-39	Weathered bedrock			---	---	---	---	---	---	---	---
	>39	Unweathered bedrock			---	---	---	---	---	---	---	---

Table 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
97:												
Antares---------	0-2	Extremely gravelly sandy loam	GW-GM	A-1	0	0	20-30	15-25	5-20	5-10	15-25	NP-5
	2-10	Very gravelly sandy loam	GM	A-1	0	0	35-55	25-50	15-35	10-20	15-25	NP-5
	10-40	Weathered bedrock			---	---	---	---	---	---	---	---
	>40	Unweathered bedrock			---	---	---	---	---	---	---	---
98:												
Nodman---------	0-2	Gravelly sandy loam	SC-SM	A-2	0	0	70-85	55-70	35-45	15-30	20-30	5-10
	2-9	Very gravelly sandy clay loam	SC	A-2	0	25-30	60-75	45-60	35-55	25-35	30-45	10-20
	9-12	Very cobbly sandy clay loam	SC	A-2	0	30-35	65-75	50-60	40-55	20-35	30-45	10-20
	12-60	Weathered bedrock			---	---	---	---	---	---	---	---
Courtland family--------	0-1	Gravelly sandy loam	GC-GM	A-2	0	0	55-80	50-75	30-50	15-30	20-30	5-10
	1-14	Gravelly sandy clay loam	GC	A-2	0	0	55-80	50-75	40-70	20-35	30-40	10-20
	14-19	Clay loam	CL	A-6	0	0	85-100	80-100	75-100	55-80	30-50	10-25
	19-29	Clay loam	CL	A-6	0	0	85-100	80-100	75-100	55-80	30-50	10-25
	>29	Unweathered bedrock			---	---	---	---	---	---	---	---
99:												
Nodman---------	0-2	Gravelly sandy loam	GC	A-2	0	0	65-90	50-75	30-50	20-35	20-30	5-10
	2-10	Very gravelly sandy clay loam	GC-GM	A-2	0	0	45-60	30-45	25-40	15-25	30-40	10-20
	10-17	Weathered bedrock			---	---	---	---	---	---	---	---
	17-60	Weathered bedrock			---	---	---	---	---	---	---	---

Table 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
99:												
Rock outcrop---	---	---	---	---	---	---	---	---	---	---	---	---
100:												
Nodman---------	0-1	Gravelly sandy loam	SM	A-2	0	0-15	75-90	60-75	35-50	15-30	15-30	NP-5
	1-6	Extremely gravelly sandy loam	GW-GM	A-1	0	0-20	25-40	10-25	5-20	5-10	15-30	NP-5
	6-12	Very cobbly sandy clay loam	SC	A-2	0	55-75	70-85	55-70	45-65	25-35	30-45	25-35
	12-60	Weathered bedrock			---	---	---	---	---	---	---	---
Romero family--------	0-2	Very gravelly sandy loam	GC-GM	A-2	0	0-10	35-50	30-45	15-30	10-15	20-30	5-10
	2-7	Extremely cobbly sandy loam	GC-GM	A-2	0	50-60	35-50	30-45	15-30	10-15	20-30	5-10
	7-21	Weathered bedrock			---	---	---	---	---	---	---	---
	>21	Unweathered bedrock			---	---	---	---	---	---	---	---
101:												
Nolam family---	0-2	Very cobbly sandy loam	SM	A-2	5-25	20-35	50-70	40-60	25-40	15-35	15-25	NP-5
	2-9	Very cobbly clay loam	SC	A-6	5-15	20-35	70-85	65-75	50-70	35-50	30-40	10-20
	9-22	Very gravelly sandy clay loam	GC	A-2	0-10	15-30	35-50	30-45	25-40	15-25	30-40	10-20
	22-32	Very gravelly sandy clay loam	GC	A-2	0	0	35-50	30-45	25-40	15-25	30-40	10-20
	32-41	Very gravelly coarse sandy loam	GW-GC	A-2	0	0-10	35-50	30-45	15-25	5-15	20-25	5-10
	41-60	Sandy clay loam	SC	A-6	0	0-10	85-100	80-95	65-80	35-50	30-40	10-20

Table 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
101:												
Ustalfic Petrocalcids--	0-1	Very gravelly sandy loam	SC	A-2	0-10	0-15	55-70	50-65	30-45	15-30	20-30	5-10
	1-4	Very stony sandy clay loam	SC	A-2	0-25	0-15	55-70	50-65	40-60	20-35	30-45	10-20
	4-13	Very gravelly clay loam	SC	A-7	0-15	0-15	55-70	50-65	45-65	35-50	40-50	20-25
	13-26	Very gravelly sandy clay loam	SC	A-2	0-15	0-15	55-70	50-65	40-60	20-35	30-45	10-20
	26-38	Very gravelly coarse sandy loam	GC-GM, GC	A-2, A-1	0	0-15	35-50	30-45	15-25	10-15	15-30	NP-10
	38-60	Cemented			---	---	---	---	---	---	---	---
Caralampi family--------	0-2	Cobbly loam	CL	A-6	0-15	15-20	80-95	75-90	65-85	50-70	25-35	10-20
	2-9	Very gravelly clay loam	GC	A-6	0-15	15-20	35-50	30-45	30-45	30-40	30-40	10-25
	9-30	Very gravelly sandy clay loam	GC-GM	A-2	0	5-15	35-50	30-50	25-45	10-35	25-35	5-10
	30-50	Very gravelly coarse sandy loam	GW-GM	A-1	0	0-10	35-50	30-45	15-25	5-15	15-20	NP-5
	50-60	Very gravelly loamy coarse sand	GW-GM	A-1	0	0-10	35-50	30-45	15-30	5-10	15-20	NP-5
102:												
Ohaco family--------	0-3	Sandy loam	SM	A-2	0	0	80-100	80-100	50-70	15-20	20-25	NP-5
	3-6	Clay loam	CL	A-6	0	0	90-100	85-100	45-100	45-80	40-50	25-30
	6-15	Clay	CH	A-7	0	0	90-100	85-100	45-100	45-100	50-60	35-40
	15-20	Very gravelly clay loam	GC	A-2	0	0-5	35-50	35-45	25-40	25-35	30-35	10-15
	20-35	Very gravelly sandy loam	GM	A-1	0	0-5	35-50	30-45	15-30	15-20	20-30	NP-5
	35-60	Indurated			---	---	---	---	---	---	---	---

Table 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
102:												
Bluebird-------	0-2	Very gravelly sandy clay loam	GC, GC-GM	A-2, A-1	0-5	5-20	30-55	25-50	25-45	10-30	25-30	5-10
	2-16	Extremely gravelly sandy clay loam	GC-GM	A-1	0-10	5-20	20-30	15-25	10-20	5-15	25-30	5-10
	16-42	Extremely gravelly coarse sandy loam	GW-GM, GW	A-1	0-10	5-20	20-30	15-25	5-20	0-10	15-25	NP-5
	42-60	Very gravelly sandy clay loam	GC, GC-GM	A-1, A-2	0-10	5-20	35-55	25-50	25-45	10-30	25-30	5-10
103:												
Orejano--------	0-2	Gravelly sandy loam	GM	A-1	0	0	55-65	50-60	35-40	15-25	15-25	NP-5
	2-7	Gravelly clay	CH	A-7	0	0	60-80	55-75	50-75	50-70	50-60	20-35
	7-12	Very gravelly sandy clay	GC	A-2	0	0	30-55	25-50	20-50	15-30	35-55	15-35
	12-18	Very gravelly sandy clay loam	GC-GM	A-2	0	0	60-70	30-45	15-45	10-35	15-20	5-10
	18-28	Extremely gravelly coarse sandy loam	GW	A-1	0	0	20-35	10-25	5-10	0-5	20-25	NP-5
	28-60	Very gravelly loamy coarse sand	GM, GW-GM	A-1	0	0	40-49	30-45	20-30	5-15	10-15	NP
104:												
Pantak family--------	0-2	Extremely cobbly loam	GC, GC-GM	A-2	10-30	35-50	30-50	25-50	25-45	20-35	30-35	5-15
	2-12	Extremely cobbly loam	GC, GC-GM	A-2	10-30	35-50	35-50	25-45	25-45	20-35	30-35	10-15
	>12	Unweathered bedrock			---	---	---	---	---	---	---	---

Table 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
104:												
Taine----------	0-2	Extremely gravelly sandy clay loam	GW-GC	A-2	0	30-35	25-35	15-30	15-30	5-15	35-50	15-30
	2-7	Very cobbly clay loam	SC	A-7	0	30-35	65-75	60-70	55-70	40-50	45-55	25-35
	7-19	Extremely stony clay loam	CH	A-7	40-50	45-55	85-95	80-90	70-90	55-70	50-55	30-35
	>19	Unweathered bedrock			---	---	---	---	---	---	---	---
Terino family--------	0-2	Extremely cobbly loam	GC	A-2	0	20-40	30-50	25-45	20-40	15-30	30-35	10-15
	2-10	Very cobbly loam	GC	A-2	0	20-40	30-50	25-45	20-40	15-30	30-35	10-15
	10-17	Extremely cobbly clay loam	GC	A-2	0	20-40	35-45	30-40	25-40	20-35	40-45	20
	17-23	Cemented			---	---	---	---	---	---	---	---
	23-35	Weathered bedrock			---	---	---	---	---	---	---	---
	>35	Unweathered bedrock			---	---	---	---	---	---	---	---
105:												
Pastern--------	0-2	Gravelly sandy loam	SC-SM, SM	A-1	0	0	80-100	50-75	35-45	15-20	20-25	NP-5
	2-11	Gravelly loam	SC-SM	A-1, A-2	0	0	80-100	50-75	45-60	15-20	25-30	5-10
	11-21	Cemented			---	---	---	---	---	---	---	---
	21-60	Extremely gravelly sandy loam	SP-SM	A-1	0	0-5	50-90	10-25	10-20	5-10	20-25	NP-5
Strych---------	0-2	Very gravelly sandy loam	GM	A-1	0	5-10	30-55	25-50	15-35	10-20	10-25	NP-5
	2-7	Extremely gravelly loam	GC-GM	A-2	0	5-10	20-30	15-25	15-25	10-20	20-25	5-10
	7-27	Very gravelly sandy loam	GM	A-1	0	5-15	30-55	25-50	15-35	10-20	10-25	NP-5
	27-60	Extremely gravelly sandy loam	GW-GM	A-1	0	5-15	20-30	15-25	10-20	5-10	10-25	NP-5

Table 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
106:												
Peachsprings---	0-3	Extremely gravelly coarse sandy loam	GC-GM	A-1	0	0	25-30	20-25	10-20	5-10	20-25	NP-5
	3-8	Gravelly sandy loam	SM, GC-GM, SC, SC-SM	A-1, A-2	0	0	55-80	50-75	30-50	15-30	20-30	NP-10
	8-21	Gravelly sandy clay loam	CL, GC, SC	A-2, A-6	0	0-5	55-80	50-75	40-75	20-60	30-40	10-15
	21-32	Gravelly clay loam	CL	A-6	0	0	55-80	50-75	45-75	35-60	30-35	10-15
	32-43	Fine sandy loam	SC, SC-SM	A-2, A-4	0	0-5	90-100	85-100	50-85	25-50	25-30	5-10
	43-64	Sandy loam	SC-SM, SM	A-4, A-2	0	0	80-100	75-100	45-70	20-40	20-25	NP-5
Havasupai------	0-2	Extremely gravelly sandy loam	GW-GM	A-1, A-2	0	0-10	20-30	15-25	5-20	0-10	25-35	5-10
	2-7	Very gravelly fine sandy loam	GC, GC-GM, GM	A-1, A-2, A-4	0	0-25	40-55	35-50	25-50	15-40	25-35	5-10
	7-15	Extremely gravelly sandy loam	GC, GC-GM	A-1, A-2	0	10-55	15-45	10-40	5-40	5-35	25-40	5-15
	15-25	Indurated			---	---	---	---	---	---	---	---
	25-60	Extremely gravelly coarse sand	GW-GM	A-1	0	0-10	10-30	5-25	2-20	0-10	15-25	NP-5
107:												
Pearce---------	0-2	Extremely stony loam	SM, SC-SM, GC-GM, GM	A-4, A-2, A-1	35-50	25-45	15-65	10-60	5-50	5-45	15-25	NP-5
	2-7	Extremely stony loam	SC-SM, SM, GC-GM, GM	A-4, A-2, A-1	35-50	25-45	15-65	10-60	5-50	5-45	15-25	NP-5
	>7	Unweathered bedrock			---	---	---	---	---	---	---	---

Table 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
108:												
Pearce---------	0-2	Extremely stony loam	GW-GM	A-1	30-40	30-40	20-35	15-30	5-15	5-10	20-25	NP-10
	2-13	Extremely gravelly sandy loam	SM	A-2, A-1	0-5	0-15	25-55	15-35	15-35	5-20	20-30	NP-10
	>13	Unweathered bedrock			---	---	---	---	---	---	---	---
Detrital-------	0-2	Extremely stony loam	GC-GM	A-1	20-65	15-35	20-40	15-35	10-35	5-10	10-15	NP-5
	2-13	Very cobbly loam	GC-GM	A-1	5-15	15-25	50-70	40-60	25-35	15-25	20-30	NP-5
	13-24	Extremely cobbly loam	SM	A-1	5-20	55-70	50-80	35-50	25-35	20-25	20-25	NP-5
	24-35	Extremely cobbly sandy clay loam	GW-GM	A-1	5-20	40-60	25-40	15-35	10-20	5-10	30-35	NP-5
	35-60	Extremely cobbly clay loam	GC, GC-GM, SC, SC-SM	A-1, A-2	5-20	55-70	40-70	35-65	30-60	15-35	25-40	5-15
Rock outcrop---	---	---	---	---	---	---	---	---	---	---	---	---
109:												
Pearce---------	0-2	Very gravelly loam	GM	A-4	0-5	0-15	35-55	30-50	25-50	15-45	30-40	5-10
	2-5	Very gravelly loam	GM	A-4	0-5	0-15	35-55	30-50	25-50	15-45	30-40	5-10
	>5	Unweathered bedrock			---	---	---	---	---	---	---	---
Rock outcrop---	---	---	---	---	---	---	---	---	---	---	---	---
110:												
Pedregosa family--------	0-2	Very cobbly sandy loam	SM	A-1	0	15-30	50-65	40-60	25-40	15-35	15-25	NP-5
	2-6	Very cobbly sandy loam	SM	A-1	0	30-50	50-65	40-60	25-40	15-35	15-25	NP-5
	6-13	Very cobbly sandy loam	SM	A-1	0	15-30	50-65	40-60	25-40	15-35	15-25	NP-5
	>13	Indurated			---	---	---	---	---	---	---	---

Table 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
110:												
Tombstone family--------	0-3	Gravelly sandy loam	SC-SM, SM	A-2, A-1	0	0	60-75	55-70	35-50	15-30	15-30	NP-10
	3-19	Very gravelly sandy loam	GM, GC-GM	A-1, A-2	0	0-20	35-50	30-45	15-35	10-20	15-30	NP-10
	19-34	Very gravelly sandy loam	GC-GM, GM	A-1, A-2	0	0-20	35-50	30-45	15-35	10-20	15-30	NP-10
	34-44	Very gravelly sandy loam	GC-GM, GM	A-1, A-2	0	0-20	35-50	30-45	15-35	10-20	15-30	NP-10
	44-50	Sandy loam	SM, SC-SM	A-2	0	0-20	85-95	80-90	45-65	25-35	15-30	NP-10
	50-60	Indurated			---	---	---	---	---	---	---	---
111:												
Pidineen family--------	0-2	Gravelly sandy loam	SM	A-2	0	0	60-80	55-75	35-60	15-25	20-25	NP-5
	2-5	Gravelly sandy loam	SM	A-2	0	0	60-80	55-75	35-60	15-25	20-25	NP-5
	5-14	Very gravelly sandy loam	GC-GM	A-2	0	0	60-70	30-45	15-45	10-35	15-20	5-10
	14-19	Gravelly sandy loam	SM	A-2	0	0	60-80	55-75	35-60	15-25	20-25	NP-5
	>19	Indurated			---	---	---	---	---	---	---	---
Tricon family--------	0-2	Loam	CL	A-6	0	0	90-100	85-100	60-100	55-90	30-40	15-20
	2-8	Clay	CH, CL	A-6, A-7	0	0	90-100	85-100	75-100	55-95	30-55	10-35
	8-16	Clay	CH, CL	A-6, A-7	0	0	90-100	85-100	75-100	55-95	30-55	10-35
	16-21	Clay	CH, CL	A-6, A-7	0	0	90-100	85-100	75-100	55-95	30-55	10-35
	>21	Cemented			---	---	---	---	---	---	---	---
112:												
Pits-dumps, Mine----------	---	---	---	---	---	---	---	---	---	---	---	---
113:												
Playa----------	---	---	---	---	---	---	---	---	---	---	---	---

Table 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
114:												
Prieta---------	0-2	Extremely cobbly loam	GC, GC-GM	A-1, A-2	0-15	50-60	15-35	10-30	10-25	5-20	25-30	5-10
	2-4	Very cobbly clay loam	CL, ML	A-6, A-7	0	40-45	65-80	60-75	55-70	50-60	37-46	12-19
	4-12	Very cobbly clay	CH, SC, GC, CL	A-7	0	25-50	55-80	50-75	45-70	40-70	40-60	15-40
	12-14	Weathered bedrock			---	---	---	---	---	---	---	---
	>14	Unweathered bedrock			---	---	---	---	---	---	---	---
Rock outcrop---	---	---	---	---	---	---	---	---	---	---	---	---
115:												
Quagwa---------	0-2	Silt loam	CL, CL-ML	A-4	0	0	100	95-100	85-100	70-90	25-30	5-10
	2-5	Silt loam	CL, CL-ML	A-4	0	0	100	95-100	80-100	60-90	25-30	5-10
	5-14	Silt loam	CL, CL-ML	A-4	0	0	100	95-100	80-100	60-90	25-30	5-10
	14-30	Silt loam	CL, CL-ML	A-4	0	0	100	95-100	80-100	60-90	25-30	5-10
	30-50	Clay loam	CL	A-6	0	0	90-100	85-95	75-95	60-75	30-35	10-15
	50-62	Loam	CL, CL-ML	A-4	0	0	90-100	85-100	70-95	55-75	25-30	5-10
116:												
Razorback------	0-2	Extremely gravelly sandy loam	GW	A-1	0	0-10	20-30	15-25	5-20	0-15	15-25	NP-5
	2-5	Very gravelly sandy loam	GW-GM	A-1	0	0-5	35-50	30-45	15-30	5-15	15-25	NP-5
	>5	Unweathered bedrock			---	---	---	---	---	---	---	---
117:												
Razorback------	0-2	Very stony loam	GC-GM, GM	A-1, A-2, A-4	40-50	0-15	35-55	25-50	20-50	15-40	15-25	NP-5
	2-15	Very gravelly loam	GC-GM, GM	A-1	0-5	0-5	20-30	15-25	15-25	10-25	15-25	NP-5
	15-25	Unweathered bedrock			---	---	---	---	---	---	---	---
Rock outcrop---	---	---	---	---	---	---	---	---	---	---	---	---

Table 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
118:												
Razorback------	0-2	Extremely gravelly loam	GW-GM	A-1	0	0	20-35	15-25	5-15	5-10	20-25	NP-10
	2-5	Very gravelly loam	GC, GC-GM, GM	A-1, A-2, A-4	0	0	30-55	25-50	20-50	15-40	15-30	NP-10
	>5	Unweathered bedrock			---	---	---	---	---	---	---	---
Rock outcrop---	---	---	---	---	---	---	---	---	---	---	---	---
119:												
Rift-----------	0-3	Silt loam	CL, CL-ML	A-4	0	0	95-100	90-100	80-100	65-90	25-30	5-10
	3-29	Silt loam	CL, CL-ML	A-4	0	0	95-100	90-100	80-100	65-90	25-30	5-10
	29-51	Silty clay loam	CL	A-6	0	0	95-100	90-100	80-100	65-80	30-35	10-15
	51-60	Clay loam	CL	A-6	0	0	90-100	85-100	75-100	55-90	30-40	10-15
120:												
Rift-----------	0-4	Silty clay loam	CL	A-6	0	0	95-100	90-100	80-100	65-80	30-35	10-15
	4-16	Silty clay loam	CL	A-6	0	0	95-100	90-100	80-100	65-80	30-35	10-15
	16-23	Silty clay loam	CL	A-6	0	0	95-100	90-100	80-100	65-80	30-35	10-15
	23-44	Silt loam	CL, CL-ML	A-4	0	0	95-100	90-100	80-100	65-90	25-30	5-10
	44-60	Sandy clay loam	SC-SM, CL, CL-ML, SC	A-4, A-2	0	0	95-100	90-100	70-90	30-55	25-30	5-10
121:												
Rillino family--------	0-2	Sandy loam	SM	A-2	0	0	80-100	80-100	50-70	15-20	20-25	NP-5
	2-11	Sandy loam	SM	A-2	0	0	80-100	80-100	50-70	15-20	20-25	NP-5
	11-16	Gravelly sandy loam	GC-GM, GM, SC-SM, SM	A-1, A-2	0	0	55-80	50-75	30-50	15-30	15-25	NP-5
	16-39	Gravelly sandy loam	GC-GM, GM, SC-SM, SM	A-1, A-2	0	0	55-80	50-75	30-50	15-30	15-25	NP-5
	39-49	Gravelly sandy loam	GC-GM, GM, SC-SM, SM	A-1, A-2	0	0	55-80	50-75	30-50	15-30	15-25	NP-5
	49-60	Extremely gravelly sandy loam	GM	A-2	0	0	20-30	15-25	5-20	5-15	20-25	NP-10
Shamock family--------	0-2	Gravelly sandy loam	SM	A-2	0	0	55-80	50-75	30-50	15-30	10-25	NP-5
	2-22	Loam	CL-ML	A-4	0	0	80-100	75-100	65-95	45-75	20-25	5-10
	22-60	Indurated			---	---	---	---	---	---	---	---

Table 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
121:												
Dutchflat------	0-2	Sandy loam	SM, SC-SM	A-4, A-2	0	0	90-100	85-100	50-70	25-40	15-25	NP-5
	2-4	Sandy loam	SC-SM, SM	A-2, A-4	0	0	90-100	85-100	50-70	25-40	15-25	NP-5
	4-37	Sandy clay loam	CL, CL-ML, SC, SC-SM	A-2, A-4, A-6	0	0	90-100	85-100	70-90	30-55	15-35	5-15
	37-60	Coarse sandy loam	SC-SM, SM	A-1, A-2	0	0	90-100	85-100	45-65	20-35	15-25	NP-5
122:												
Rock outcrop---	---	---	---	---	---	---	---	---	---	---	---	---
Appleseed------	0-2	Extremely cobbly sandy loam	GC-GM	A-2	5-25	30-50	35-50	30-45	15-35	10-20	20-30	5-10
	2-8	Extremely cobbly sandy loam	GC-GM	A-2	5-25	30-50	35-50	30-45	15-35	10-20	20-30	5-10
	>8	Unweathered bedrock			---	---	---	---	---	---	---	---
123:												
Rock outcrop---	---	---	---	---	---	---	---	---	---	---	---	---
Pearce---------	0-1	Very cobbly sandy loam	GC, GC-GM, SC, SC-SM	A-2	0-10	15-55	45-90	40-85	35-60	25-35	25-30	5-10
	1-7	Very cobbly sandy loam	GC, GC-GM, SC, SC-SM	A-2	0-10	15-55	45-90	40-85	35-60	25-35	25-30	5-10
	>7	Unweathered bedrock			---	---	---	---	---	---	---	---
124:												
Rock outcrop---	---	---	---	---	---	---	---	---	---	---	---	---
Razorback------	0-2	Very gravelly sandy loam	GC-GM, GM	A-1	0	0-10	20-30	15-25	5-20	0-15	15-25	NP-5
	2-15	Very gravelly loam	GC-GM, GM	A-1	0-5	0-5	20-30	15-25	15-25	10-25	15-25	NP-5
	15-25	Unweathered bedrock			---	---	---	---	---	---	---	---

Table 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
125:												
Rock outcrop---	---	---	---	---	---	---	---	---	---	---	---	---
Torriorthents--	---	---	---	---	---	---	---	---	---	---	---	---
126:												
Rock outcrop---	---	---	---	---	---	---	---	---	---	---	---	---
Torriorthents--	---	---	---	---	---	---	---	---	---	---	---	---
127:												
Rock outcrop---	---	---	---	---	---	---	---	---	---	---	---	---
Valena---------	0-2	Sandy loam	SC-SM, SM	A-4, A-2	0	0	80-100	75-100	45-70	20-40	20-25	NP-5
	2-7	Sandy loam	SM	A-4, A-2	0	0	80-100	75-100	45-70	20-40	20-25	NP-5
	7-12	Sandy clay loam	SC-SM, SC	A-6, A-4	0	0	80-100	75-100	60-90	25-55	25-35	5-15
	>12	Unweathered bedrock			---	---	---	---	---	---	---	---
Kopie family---	0-2	Gravelly sandy loam	SM, GC-GM, SC, SC-SM	A-1, A-2	0	0	55-80	50-75	30-50	15-30	20-30	NP-10
	2-16	Gravelly sandy loam	SM, GC-GM, SC, SC-SM	A-1, A-2	0	0	55-80	50-75	30-50	15-30	20-30	NP-10
	>16	Unweathered bedrock			---	---	---	---	---	---	---	---
128:												
Rolie----------	0-1	Very gravelly loam	GC, GC-GM, GM	A-1, A-2	0	0-5	40-60	35-50	30-50	20-35	23-34	5-10
	1-4	Gravelly loam	CL-ML, GC, SC, SC-SM	A-4	0	0-5	70-85	60-75	50-70	35-55	25-30	5-10
	4-9	Cobbly loam	CL, CL-ML	A-4	0	25-35	90-100	80-95	70-90	50-70	25-30	5-10
	9-15	Cemented			---	---	---	---	---	---	---	---
	15-60	Indurated			---	---	---	---	---	---	---	---

Table 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
128:												
Dean----------	0-2	Extremely gravelly loam	GC, GC-GM	A-1, A-2	0	0-10	10-30	5-25	5-25	5-20	20-25	5-10
	2-6	Gravelly loam	CL-ML, GC-GM, SC-SM	A-2, A-4	0	0	55-80	50-75	40-70	30-55	25-30	5-10
	6-16	Gravelly loam	CL-ML, GC-GM, SC-SM	A-2, A-4	0	0	55-80	50-75	40-70	30-55	25-30	5-10
	16-21	Very gravelly loam	GC	A-2	0	0-10	35-50	30-45	25-40	15-35	25-30	10-15
	21-28	Gravelly loam	CL-ML, GC-GM, SC-SM	A-2, A-4	0	0	55-80	50-75	40-70	30-55	25-30	5-10
	28-60	Gravelly loam	CL-ML, GC-GM, SC-SM	A-2, A-4	0	0	55-80	50-75	40-70	30-55	25-30	5-10
129:												
Romero---------	0-1	Extremely cobbly sandy loam	GC-GM, GM	A-1	0-10	30-45	30-55	25-50	15-30	5-15	15-25	NP-5
	1-6	Very gravelly sandy clay loam	GC	A-1, A-2	0-5	0-10	30-55	25-50	25-45	10-30	30-40	5-15
	6-60	Weathered bedrock			---	---	---	---	---	---	---	---
Chiricahua-----	0-1	Very gravelly sandy loam	GC-GM, GM	A-1	0	10-15	25-55	20-50	10-35	5-20	15-25	NP-5
	1-6	Sandy clay	CH, CL, SC	A-7	0	0-5	80-95	75-90	65-85	35-55	40-60	20-35
	6-14	Sandy clay	CH, CL, SC	A-7	0	0-5	80-95	75-90	65-85	35-55	40-60	20-35
	14-16	Gravelly sandy clay	GC, SC	A-2, A-7	0	0-5	55-80	50-75	40-70	20-45	40-60	20-35
	16-22	Weathered bedrock			---	---	---	---	---	---	---	---
	>22	Unweathered bedrock			---	---	---	---	---	---	---	---
Rock outcrop---	---	---	---	---	---	---	---	---	---	---	---	---

Table 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
130:												
Romero---------	0-1	Extremely cobbly sandy loam	GW-GM	A-1	5-15	35-45	30-55	25-50	15-30	5-15	15-25	NP-5
	1-6	Very gravelly sandy clay loam	GC	A-1, A-2	0-5	0-10	30-55	25-50	25-45	10-30	30-40	5-15
	6-60	Weathered bedrock			---	---	---	---	---	---	---	---
Lampshire------	0-1	Gravelly coarse sandy loam	SC-SM, SM	A-2, A-1	0	0	55-80	50-75	25-45	15-30	20-25	NP-5
	1-6	Very gravelly sandy loam	SM	A-1	0	0-5	50-60	40-50	23-35	10-20	15-25	NP-5
	6-17	Weathered bedrock			---	---	---	---	---	---	---	---
	>17	Unweathered bedrock			---	---	---	---	---	---	---	---
Rock outcrop---	---	---	---	---	---	---	---	---	---	---	---	---
131:												
Rositas--------	0-60	Sand	SM	A-3, A-2	0	0	100	100	50-70	5-15	10-15	NP
132:												
Shortbread-----	0-1	Loamy sand	SP-SM, SC-SM, SM	A-2, A-1	0	0	95-100	90-100	40-75	10-30	10-20	NP-5
	1-28	Loamy sand	SP-SM, SC-SM, SM	A-2, A-1	0	0	95-100	90-100	40-75	10-30	10-20	NP-5
	28-38	Sandy loam	SM	A-2	0	0	90-100	85-95	50-70	10-15	20-25	NP-5
	38-60	Loamy sand	SP-SM, SC-SM, SM	A-2, A-1	0	0	95-100	90-100	40-75	10-30	10-20	NP-5
133:												
Shortbread-----	0-1	Loamy sand	SP-SM, SC-SM, SM	A-2, A-1	0	0	80-100	75-100	40-75	10-30	10-20	NP-5
	1-21	Loamy sand	SP-SM, SC-SM, SM	A-2, A-1	0	0	80-100	75-100	40-75	10-30	10-20	NP-5
	21-30	Sandy loam	SM	A-2	0	0	90-100	85-95	50-70	10-15	20-25	NP-5
	30-60	Loamy sand	SP-SM, SC-SM, SM	A-2, A-1	0	0	95-100	90-100	40-75	10-30	10-20	NP-5

Table 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
133:												
Kurstan family--------	0-2	Sandy loam	SM	A-2	0	0	90-100	85-95	50-70	10-15	20-25	NP-5
	2-15	Sandy loam	SM	A-2	0	0	90-100	85-95	50-70	10-15	20-25	NP-5
	15-29	Sandy loam	SM	A-2	0	0	90-100	85-95	50-70	10-15	20-25	NP-5
	29-42	Sandy loam	SM	A-2	0	0	90-100	85-95	50-70	10-15	20-25	NP-5
	42-60	Clay loam	CL	A-6	0	0-5	95-100	95-100	90-100	70-80	30-35	10-15
Dusty----------	0-3	Silty clay loam	CL	A-7	0	0	90-100	90-100	50-85	50-80	40-45	20-25
	3-12	Clay loam	CL	A-6	0	0	95-100	90-100	80-100	65-80	30-35	10-15
	12-26	Clay loam	CL	A-6	0	0	95-100	90-100	80-100	65-80	30-35	10-15
	26-56	Clay loam	CL	A-6	0	0	95-100	90-100	80-100	65-80	30-35	10-15
	56-60	Silty clay loam	CL	A-7	0	0	90-100	90-100	50-85	50-80	40-45	20-25
134:												
Skelon family--------	0-1	Gravelly sandy loam	SM	A-2, A-1	0	0	40-80	35-75	30-50	15-30	10-25	NP-5
	1-16	Gravelly sandy loam	SM	A-2, A-1	0	0	40-80	35-75	30-50	15-30	10-25	NP-5
	16-26	Extremely gravelly sandy loam	GW-GM	A-1	0	0	20-30	15-25	10-20	5-10	10-25	NP-5
	>26	Indurated			---	---	---	---	---	---	---	---
Greyeagle family--------	0-1	Very gravelly sandy loam	GM, GW-GM	A-1	0	0	35-50	30-45	15-45	5-15	15-20	NP-5
	1-9	Very gravelly sandy loam	GM, GW-GM	A-1	0	0	35-50	30-45	15-45	5-15	15-20	NP-5
	>9	Indurated			---	---	---	---	---	---	---	---
Detrital-------	0-2	Very gravelly sandy loam	GC-GM, GM	A-1	0	0	30-55	25-50	15-35	10-20	20-25	NP-5
	2-60	Very gravelly sandy loam	GC-GM, GM	A-1	0	0	30-55	25-50	15-35	10-20	20-25	NP-5
135:												
Skelon family--------	0-2	Very gravelly sandy loam	GW-GM	A-1	0	0	25-55	20-50	10-35	5-20	10-25	NP-5
	2-27	Very gravelly sandy loam	GW-GM	A-1	0	0	25-55	20-50	10-35	5-20	10-25	NP-5
	27-60	Indurated			---	---	---	---	---	---	---	---

Table 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
135:												
Pinaleno family--------	0-2	Very gravelly sandy loam	GM	A-1	0	0-15	35-50	30-45	15-35	10-20	10-25	NP
	2-8	Gravelly sandy clay loam	SM	A-2	0	10-20	60-75	55-70	25-55	15-35	25-35	5-10
	8-13	Gravelly sandy clay loam	SM	A-2	0	10-20	60-75	55-70	25-55	15-35	25-35	5-10
	13-60	Very gravelly sandy loam	GM	A-1	0	0-15	35-50	30-45	15-35	10-20	10-25	NP
136:												
Storybook------	0-2	Very gravelly sandy loam	GM, GW-GM	A-1	0	0	35-50	30-45	15-45	5-15	15-20	NP-5
	2-25	Very gravelly sandy loam	GM, GW-GM	A-1	0	0	35-50	30-45	15-45	5-15	15-20	NP-5
	25-35	Gravelly sandy loam	SM, GM, GC-GM, SC-SM	A-1, A-2	0	0	55-80	50-75	30-50	15-30	15-25	NP-5
	35-60	Very gravelly sandy loam	GM, GW-GM	A-1	0	0	35-50	30-45	15-45	5-15	15-20	NP-5
137:												
Stronghold family--------	0-2	Gravelly sandy loam	SC-SM	A-2	0	0-10	60-75	55-75	35-45	15-30	15-30	NP-10
	2-7	Sandy loam	SC-SM	A-4	0	0-10	95-100	95-100	60-70	35-40	20-30	5-10
	7-31	Sandy loam	SC-SM	A-4	0	0-10	95-100	95-100	60-70	35-40	20-30	5-10
	31-44	Sandy loam	SC-SM	A-4	0	0-10	95-100	95-100	60-70	35-40	20-30	5-10
	44-60	Fine sandy loam	SC-SM	A-4	0	0-10	95-100	95-100	70-85	40-55	20-30	5-10

Table 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
137:												
McAllister family--------	0-2	Gravelly sandy loam	SC-SM	A-2	0	0	70-85	55-70	35-45	15-30	20-30	5-10
	2-12	Gravelly sandy clay loam	SC	A-6	0	0-5	55-80	50-75	40-70	35-45	30-40	10-20
	12-26	Gravelly sandy clay loam	SC	A-6	0	0-5	55-80	50-75	40-70	35-45	30-40	10-20
	26-37	Very gravelly coarse sandy loam	GW-GM	A-2	0	0-5	35-45	30-40	15-25	5-10	15-30	NP-10
	37-53	Extremely gravelly sandy loam	GW-GM	A-2	0	0-5	25-35	20-30	10-20	5-10	15-30	NP-10
	53-60	Very gravelly loamy coarse sand	GW-GM	A-2	0	0-5	40-50	35-45	20-30	5-10	15-25	NP-10
138:												
Sunrock--------	0-2	Extremely gravelly sandy loam	GW-GM	A-1	0	5-10	20-30	15-25	10-20	5-10	20-25	NP-5
	2-5	Very gravelly sandy loam	GM	A-1	0	0	30-55	25-50	15-35	10-20	20-25	NP-5
	>5	Unweathered bedrock			---	---	---	---	---	---	---	---
139:												
Sunrock--------	0-5	Extremely gravelly sandy loam	GW-GM	A-1	20-30	20-30	15-25	10-20	5-15	5-10	20-25	NP-5
	5-7	Very gravelly sandy loam	GM	A-1	0	0	35-45	30-40	15-30	10-15	20-25	NP-5
	>7	Unweathered bedrock			---	---	---	---	---	---	---	---
Rock outcrop---	---	---	---	---	---	---	---	---	---	---	---	---

Table 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
140:												
Superstition family--------	0-1	Very gravelly loamy sand	GW-GM	A-1	0	0-20	35-45	30-40	15-30	5-10	10-15	NP
	1-7	Very gravelly loamy sand	GW-GM	A-1	0	0-20	35-45	30-40	15-30	5-10	10-15	NP
	7-23	Gravelly loamy sand	SM	A-1	0	0-20	60-70	55-65	25-45	15-25	10-15	NP-5
	23-60	Fine sand	SM	A-2	0	0	100	95-100	50-80	15-35	15-20	NP-3
Carrwash-------	0-4	Extremely gravelly loamy sand	GW-GM	A-1	0	0-5	20-30	15-25	10-20	5-10	10-25	NP
	4-60	Extremely gravelly sand	GW	A-1	0	0-5	20-30	15-25	10-20	1-5	0-10	NP
141:												
Taine----------	0-2	Extremely cobbly loam	GC, GC-GM, SC, SC-SM	A-2	0-5	50-60	40-70	35-65	30-60	25-45	25-40	15-25
	2-5	Extremely cobbly clay loam	GC, GC-GM, SC, SC-SM	A-1, A-2	0-5	50-60	40-70	35-65	30-60	15-35	25-40	5-15
	5-11	Extremely cobbly clay	GC	A-7	0-5	50-70	45-55	40-50	40-50	35-50	40-50	20-30
	11-15	Extremely flaggy clay	CH, CL, GC	A-2, A-7	15-30	70-85	40-65	35-60	30-60	25-55	45-60	20-35
	>15	Unweathered bedrock			---	---	---	---	---	---	---	---
142:												
Thimble--------	0-2	Extremely cobbly clay loam	GC	A-2	5-20	30-40	25-45	20-40	20-35	15-30	30-40	10-15
	2-10	Extremely cobbly clay	GC	A-7	5-20	30-40	45-65	40-60	40-55	35-50	40-50	20-30
	10-15	Weathered bedrock			---	---	---	---	---	---	---	---
	>15	Unweathered bedrock			---	---	---	---	---	---	---	---
Rock outcrop---	---	---	---	---	---	---	---	---	---	---	---	---

Table 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
143:												
Tombstone family--------	0-2	Gravelly sandy loam	SC-SM	A-2	0	0-15	65-80	60-75	35-50	15-30	20-30	5-10
	2-16	Very cobbly sandy loam	SC-SM	A-2	0	25-50	50-65	40-60	25-40	15-25	20-30	5-10
	16-46	Very cobbly sandy loam	SC-SM	A-2	0	25-50	50-65	40-60	25-40	15-25	20-30	5-10
	46-60	Extremely cobbly sandy loam	GC-GM	A-2	5-25	30-50	35-50	30-45	15-35	10-20	20-30	5-10
Caralampi family-------	0-2	Gravelly sandy loam	SC-SM, SM	A-2, A-1	0	0	55-75	50-70	30-50	15-30	15-30	NP-10
	2-6	Gravelly sandy loam	SM, SC-SM	A-1, A-2	0	0	55-75	50-70	30-50	15-30	15-30	NP-10
	6-21	Very gravelly sandy clay loam	GC	A-2	0-5	0-20	35-50	30-45	25-40	15-25	30-45	10-20
	21-32	Very gravelly sandy clay loam	GC	A-2	0-5	0-20	35-50	30-45	15-35	10-25	30-45	10-20
	32-60	Very cobbly sandy loam	GM, GC-GM	A-1, A-2	0-10	0-30	35-50	30-45	15-35	10-20	15-30	NP-10
Nolam family---	0-2	Very gravelly sandy loam	GC-GM, GM	A-1, A-2	0-10	0-15	35-50	30-45	15-35	10-20	15-30	NP-10
	2-5	Very gravelly sandy loam	GM, GC-GM	A-2, A-1	0-10	0-15	35-50	30-45	15-35	10-20	15-30	NP-10
	5-18	Very gravelly sandy clay loam	GC, GC-GM	A-2	0-10	0-15	35-50	30-45	25-40	10-20	30-45	10-20
	18-24	Very gravelly sandy loam	GC, GC-GM	A-2	0-10	0-20	35-50	30-45	15-35	10-20	30-30	10
	24-30	Very gravelly sandy loam	GM, GC-GM	A-2	0-10	0-20	35-50	30-45	15-35	10-20	15-30	NP-10
	30-60	Extremely gravelly sandy loam	GW-GM	A-2, A-1	0-10	0-15	15-30	10-25	5-20	5-10	15-30	NP-10
144:												
Torriorthents--	---	---	---	---	---	---	---	---	---	---	---	---

Table 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
145:												
Torriorthents--	---	---	---	---	---	---	---	---	---	---	---	---
Haplocambids---	---	---	---	---	---	---	---	---	---	---	---	---
146:												
Torriorthents--	---	---	---	---	---	---	---	---	---	---	---	---
Rock outcrop---	---	---	---	---	---	---	---	---	---	---	---	---
147:												
Tovar----------	0-1	Gravelly clay loam	CL	A-6	0	0-15	75-100	70-100	65-100	60-95	30-40	20-30
	1-4	Gravelly clay loam	CL	A-6	0	0-15	75-100	70-100	65-100	60-95	30-40	20-30
	4-7	Gravelly clay loam	CL	A-6	0	0-15	75-100	70-100	65-100	60-95	30-40	20-30
	7-10	Gravelly clay	CH	A-7	0	0-15	70-80	65-75	50-70	50-60	50-60	30-40
	10-29	Clay	CH, CL	A-7	0	0-5	95-100	90-95	75-90	50-75	40-55	20-30
	>29	Unweathered bedrock			---	---	---	---	---	---	---	---
Grandwash------	0-2	Very cobbly sandy loam	SM	A-1	0-15	30-50	50-90	45-60	25-50	15-20	20-25	NP-5
	2-7	Very cobbly clay loam	CL, ML	A-6, A-7	0-15	30-50	65-80	60-75	55-70	50-60	37-46	12-19
	7-17	Very cobbly silty clay	GC	A-7	0-15	30-50	50-60	40-55	35-55	35-45	40-60	25-35
	>17	Unweathered bedrock			---	---	---	---	---	---	---	---
148:												
Truxton--------	0-2	Loam	CL-ML, ML	A-4	0	0	95-100	90-100	75-95	55-75	20-25	NP-5
	2-5	Silt loam	CL-ML, ML	A-4	0	0	95-100	90-100	80-100	65-90	15-25	NP-5
	5-34	Silt loam	CL-ML, ML	A-4	0	0	95-100	90-100	80-100	65-90	15-25	NP-5
	34-60	Silt loam	CL-ML, ML	A-4	0	0	95-100	90-100	80-100	65-90	15-25	NP-5
Truxton, frequently flooded-------	0-1	Loam	CL-ML, ML	A-4	0	0	95-100	90-100	75-95	55-75	20-25	NP-5
	1-60	Silt loam	CL-ML, ML	A-4	0	0	95-100	90-100	80-100	65-90	15-25	NP-5

Table 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
149:												
Tumarion-------	0-3	Very cobbly loam	GC, GC-GM	A-2, A-4	0	35-55	55-65	45-55	40-50	25-40	25-30	5-10
	3-10	Extremely gravelly loam	GC, GC-GM	A-1, A-2	0	0-5	25-30	15-20	10-20	5-15	20-30	5-10
	10-12	Indurated			---	---	---	---	---	---	---	---
	>12	Unweathered bedrock			---	---	---	---	---	---	---	---
150:												
Tumarion-------	0-2	Extremely cobbly sandy loam	SW-SM	A-1	5-10	80-90	60-80	55-75	20-40	5-10	15-25	NP-5
	2-15	Very cobbly sandy loam	SW-SM	A-1	0	30-40	60-80	55-75	20-40	5-10	15-25	NP-5
	15-19	Indurated			---	---	---	---	---	---	---	---
	>19	Unweathered bedrock			---	---	---	---	---	---	---	---
Nickel family--------	0-4	Extremely stony loam	CL-ML	A-4	40-60	30-50	80-90	75-85	70-80	50-60	20-25	5-10
	4-23	Very cobbly silt loam	GC, SC	A-2, A-4	0	30-60	45-70	40-65	30-60	25-50	26-32	7-10
	23-51	Very cobbly loam	GM	A-1	0	30-45	50-60	45-55	25-50	15-20	20-25	NP-10
	51-60	Very cobbly sandy loam	SW-SM	A-1	0	30-45	60-80	55-75	20-40	5-10	15-25	NP-5
151:												
Tumarion-------	0-2	Very gravelly sandy loam	GM	A-1	0	0-15	40-55	35-50	10-15	10-15	15-20	NP
	2-16	Very gravelly sandy loam	GM	A-1	0	0-20	40-55	35-50	10-15	10-15	15-20	NP
	16-19	Indurated			---	---	---	---	---	---	---	---
	>19	Unweathered bedrock			---	---	---	---	---	---	---	---

Table 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
151:												
Nickel family--------	0-4	Extremely stony loam	GC-GM	A-4	45-70	30-50	45-55	40-50	35-50	25-40	20-25	5-10
	4-23	Very cobbly silt loam	GC, SC	A-2, A-4	0	30-60	45-70	40-65	30-60	25-50	26-32	7-10
	23-51	Very cobbly loam	GM	A-1	0	30-45	50-60	45-55	25-50	15-20	20-25	NP-10
	51-60	Very cobbly sandy loam	SW-SM	A-1	0	30-45	60-80	55-75	20-40	5-10	15-25	NP-5
152:												
Tyro-----------	0-2	Extremely stony sandy loam	GM, GC-GM	A-1	35-55	0-10	30-55	25-50	15-35	10-20	20-25	NP-5
	2-11	Extremely gravelly sandy loam	GM	A-1	0-10	0-10	20-30	15-25	5-20	0-15	20-25	NP-5
	11-18	Indurated			---	---	---	---	---	---	---	---
	>18	Unweathered bedrock			---	---	---	---	---	---	---	---
153:												
Tyro-----------	0-1	Very gravelly sandy loam	GM	A-1	0	0	30-55	25-50	15-35	10-20	20-25	NP-5
	1-6	Very gravelly sandy loam	GM	A-1	0	0	30-55	25-50	15-35	10-20	20-25	NP-5
	6-9	Very gravelly coarse sandy loam	GM	A-1	0	0	30-55	25-50	15-35	10-20	20-25	NP-5
	9-14	Indurated			---	---	---	---	---	---	---	---
	>14	Unweathered bedrock			---	---	---	---	---	---	---	---
154:												
Tyro-----------	0-2	Extremely gravelly loam	GW-GM	A-1	0-5	0-5	20-35	15-25	5-15	5-10	20-25	NP-10
	2-8	Extremely gravelly loam	GW-GM	A-1	0-5	0-5	20-35	15-25	5-15	5-10	20-25	NP-10
	8-10	Extremely gravelly loam	GW-GM	A-1	0-5	0-5	20-35	15-25	5-15	5-10	20-25	NP-10
	10-60	Cemented			---	---	---	---	---	---	---	---

Table 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
154:												
Sunrock--------	0-2	Extremely gravelly sandy loam	GW-GM	A-1	20-30	20-30	15-25	10-20	5-15	5-10	20-25	NP-5
	2-5	Very gravelly sandy loam	GM	A-1	0	0	30-40	25-35	15-35	10-20	20-25	NP-5
	>5	Unweathered bedrock			---	---	---	---	---	---	---	---
155:												
Urban land-----	---	---	---	---	---	---	---	---	---	---	---	---
Calvista family--------	0-2	Very gravelly loam	GC, GC-GM, GM	A-1, A-2	0	0-5	40-60	35-50	30-50	20-35	23-34	5-10
	2-10	Cobbly loam	GC	A-2	0	0-15	35-60	25-50	20-30	15-20	20-30	10-15
	>10	Unweathered bedrock			---	---	---	---	---	---	---	---
156:												
Ustorthents----	---	---	---	---	---	---	---	---	---	---	---	---
Rock outcrop---	---	---	---	---	---	---	---	---	---	---	---	---
157:												
Valena---------	0-2	Sandy loam	SC-SM, SM	A-4, A-2	0	0	80-100	75-100	45-70	20-40	20-25	NP-5
	2-7	Sandy loam	SM	A-4, A-2	0	0	80-100	75-100	45-70	20-40	20-25	NP-5
	7-12	Sandy clay loam	SC-SM, SC	A-6, A-4	0	0	80-100	75-100	60-90	25-55	25-35	5-15
	>12	Unweathered bedrock			---	---	---	---	---	---	---	---
Carri----------	0-2	Sandy loam	SC-SM, SM	A-4, A-2	0	0	80-100	75-100	45-70	20-40	20-25	NP-5
	2-9	Loam	CL-ML	A-4	0	0	80-100	75-100	65-95	45-75	25-30	5-10
	9-21	Sandy clay loam	SC, SC-SM	A-6, A-4, A-2	0	0	80-100	75-100	60-90	25-55	25-35	5-15
	21-27	Sandy clay loam	SC, SC-SM	A-6, A-4, A-2	0	0	80-100	75-100	60-90	25-55	25-35	5-15
	>27	Unweathered bedrock			---	---	---	---	---	---	---	---

Table 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
158:												
Valena---------	0-2	Sandy loam	SC-SM, SM	A-4, A-2	0	0	80-100	75-100	45-70	20-40	20-25	NP-5
	2-7	Sandy loam	SM	A-4, A-2	0	0	80-100	75-100	45-70	20-40	20-25	NP-5
	7-12	Sandy clay loam	SC-SM, SC	A-6, A-4	0	0	80-100	75-100	60-90	25-55	25-35	5-15
	>12	Unweathered bedrock			---	---	---	---	---	---	---	---
Rock outcrop---	---	---	---	---	---	---	---	---	---	---	---	---
Carri family--------	0-2	Sandy loam	SC, SC-SM	A-2, A-4	0	0	95-100	90-100	55-70	30-40	25-30	5-10
	2-34	Sandy clay loam	CL, SC	A-6	0	0	95-100	90-100	75-90	35-55	30-40	10-15
	34-44	Gravelly coarse sandy loam	SC-SM, SM	A-2	0	0	70-85	60-75	35-50	20-30	15-20	NP-5
	44-60	Loam	CL-ML	A-4	0	0	85-100	80-100	50-75	50-75	20-25	NP-5
159:												
Vekol family---	0-4	Gravelly loamy sand	GM, SC-SM, SM	A-1, A-2	0	0	55-80	50-75	25-55	10-20	10-20	NP-5
	4-10	Gravelly sandy loam	GC-GM, GM, SC-SM, SM	A-1, A-2	0	0-5	55-80	50-75	30-50	15-30	15-25	NP-5
	10-26	Gravelly sandy clay	GC, SC	A-2, A-6, A-7	0	0	55-80	50-75	40-70	20-45	35-55	15-35
	26-40	Gravelly sandy clay loam	GC, SC	A-1, A-2, A-4, A-6	0	0	55-80	50-75	40-70	20-40	30-40	5-15
	40-60	Very gravelly sand	SW	A-1	0	0	30-55	25-50	10-35	0-10	10-20	NP-5
160:												
Vekol family---	0-3	Loam	CL	A-6	0	0	90-100	85-100	60-100	55-90	30-40	15-20
	3-21	Clay	CH	A-7	0	0	90-100	85-100	45-100	45-100	50-60	35-40
	21-45	Clay	CH	A-7	0	0	90-100	85-100	45-100	45-100	50-60	35-40
	45-57	Sandy clay loam	CL	A-6	0	0	90-100	85-100	70-95	50-80	30-40	10-15
	57-60	Loam	ML	A-4	0	0-5	85-100	80-100	70-95	50-75	25-30	NP-5
161:												
Vekol family---	0-2	Very cobbly clay loam	CL, ML	A-6, A-7	0	40-45	65-80	60-75	55-70	50-60	37-46	12-19
	2-39	Clay	CH	A-7	0	0	90-100	85-100	45-100	45-100	50-60	35-40
	39-60	Very gravelly clay	GC	A-2	0	0	35-50	30-45	30-40	25-35	50-60	35-40

Table 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
161:												
Whitehills-----	0-2	Very gravelly loam	GC, GC-GM, GM	A-1, A-2, A-4	0	0-15	30-55	25-50	20-50	15-40	15-30	NP-10
	2-7	Very gravelly loam	GC, GC-GM, GM	A-1, A-2, A-4	0	0-15	30-55	25-50	20-50	15-40	15-30	NP-10
	7-19	Very gravelly clay loam	GC	A-2, A-6	0	0-15	30-55	25-50	20-50	20-40	30-35	10-15
	19-27	Very gravelly loam	GC, GC-GM, GM	A-1, A-2, A-4	0	0-15	30-55	25-50	20-50	15-40	15-30	NP-10
	>27	Indurated			---	---	---	---	---	---	---	---
162:												
Vock-----------	0-6	Very cobbly sandy loam	SC-SM, SM	A-2	10-15	20-35	65-80	60-75	35-50	20-30	20-25	NP-5
	6-11	Gravelly sandy loam	SM, SC-SM	A-2, A-1	0	0-5	55-80	50-75	30-50	15-30	20-25	NP-5
	11-16	Very gravelly sandy loam	GM	A-1	0	0-5	30-55	25-50	15-35	10-20	20-25	NP-5
	>16	Weathered bedrock			---	---	---	---	---	---	---	---
Elements-------	0-5	Very stony sandy loam	GM	A-1	20-30	20-30	40-50	35-45	20-35	10-20	20-25	NP-5
	5-11	Very cobbly sandy loam	GM	A-1	0	20-30	35-50	30-45	15-35	10-20	20-25	NP-5
	11-52	Very cobbly loam	GM, GC-GM	A-2	0	25-35	35-50	30-45	25-45	20-35	20-30	NP-10
	52-60	Extremely cobbly sandy loam	GM	A-1	15-25	40-50	20-30	15-25	5-15	5-15	20-25	NP-5
Rock outcrop---	---	---	---	---	---	---	---	---	---	---	---	---
163:												
Vock-----------	0-1	Very cobbly sandy loam	SC-SM, SM	A-2	10-15	20-35	65-80	60-75	35-50	20-30	20-25	NP-5
	1-6	Very cobbly sandy loam	SC-SM, SM	A-2	10-15	20-35	65-80	60-75	35-50	20-30	20-25	NP-5
	6-10	Very gravelly sandy loam	SM	A-1	0-10	15-25	50-60	40-50	15-35	10-20	20-25	NP-5
	10-60	Weathered bedrock			---	---	---	---	---	---	---	---

Table 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
163:												
Elements-------	0-5	Very stony sandy loam	GM	A-1	20-30	20-30	40-50	35-45	20-35	10-20	20-25	NP-5
	5-11	Very cobbly sandy loam	GM	A-1	0	20-30	35-50	30-45	15-35	10-20	20-25	NP-5
	11-52	Very cobbly loam	GM, GC-GM	A-2	0	25-35	35-50	30-45	25-45	20-35	20-30	NP-10
	52-60	Extremely cobbly sandy loam	GM	A-1	15-25	40-50	20-30	15-25	5-15	5-15	20-25	NP-5
Rock outcrop---	---	---	---	---	---	---	---	---	---	---	---	---
164:												
Water----------	---	---	---	---	---	---	---	---	---	---	---	---
165:												
White House----	0-1	Gravelly loamy sand	GC, GM, SC-SM, SM	A-2, A-1	0	0-5	55-80	50-75	25-55	10-20	0-30	NP-10
	1-5	Sandy clay loam	CL, SC	A-2, A-4, A-6	0	0-5	95-100	90-100	70-90	30-55	30-40	5-15
	5-23	Sandy clay	CH, CL, SC	A-6, A-7	0	0-5	80-100	75-100	65-95	35-60	35-55	15-35
	23-42	Gravelly sandy clay loam	GC, SC	A-1, A-2, A-4, A-6	0	0	55-80	50-75	40-70	20-40	30-40	5-15
	42-60	Gravelly loamy sand	GC, GM, SC-SM, SM	A-1, A-2	0	0	55-80	50-75	25-55	10-20	10-25	NP-15
166:												
White House family--------	0-1	Very gravelly loamy sand	GM	A-1	0	0	40-50	35-45	15-30	5-15	0-10	NP
	1-15	Very gravelly sandy clay loam	GC	A-1, A-2	0	0	35-55	25-50	25-45	10-30	30-40	5-15
	15-21	Gravelly clay	CH	A-7	0	0	60-80	55-75	50-75	50-70	50-60	20-35
	21-32	Clay	CH, CL	A-6, A-7	0	0	100	100	90-100	75-95	35-55	15-35
	32-43	Gravelly sandy clay loam	GC, SC	A-1, A-2, A-4, A-6	0	0	55-80	50-75	40-70	20-40	30-40	5-15
	43-60	Gravelly loamy sand	GM, SC-SM, SM	A-1, A-2	0	0	55-80	50-75	25-55	10-20	10-20	NP-5

Table 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
167:												
Whitehills-----	0-2	Very gravelly loam	GC, GC-GM, GM	A-1, A-2, A-4	0	0-15	30-55	25-50	20-50	15-40	15-30	NP-10
	2-7	Very gravelly loam	GC, GC-GM, GM	A-1, A-2, A-4	0	0-15	30-55	25-50	20-50	15-40	15-30	NP-10
	7-19	Very gravelly clay loam	GC	A-2, A-6	0	0-15	30-55	25-50	20-50	20-40	30-35	10-15
	19-27	Very gravelly loam	GC, GC-GM, GM	A-1, A-2, A-4	0	0-15	30-55	25-50	20-50	15-40	15-30	NP-10
	>27	Indurated			---	---	---	---	---	---	---	---
168:												
Wodomont-------	0-2	Extremely cobbly sandy loam	GM	A-1	0-15	40-50	40-50	35-45	20-30	10-20	10-25	NP-5
	2-8	Extremely gravelly sandy loam	GM	A-1	0	30-40	25-35	20-30	10-20	5-15	10-25	NP-5
	8-18	Extremely gravelly sandy loam	GM	A-1	0	30-40	25-35	20-30	10-20	5-15	10-25	NP-5
	>18	Unweathered bedrock			---	---	---	---	---	---	---	---
Kydestea-------	0-2	Extremely gravelly loam	GC-GM	A-2	0	0-20	25-45	20-40	20-40	15-30	20-25	5-10
	2-4	Extremely cobbly loam	GC, GC-GM	A-1, A-2	0	50-80	15-35	10-30	10-25	5-20	25-30	5-10
	4-10	Extremely cobbly silty clay loam	GC	A-2, A-6	0	50-80	35-50	30-40	25-40	25-40	30-35	20-25
	10-15	Extremely cobbly silty clay loam	GC	A-2, A-6	0	50-80	35-50	30-40	25-40	25-40	30-35	20-25
	>15	Unweathered bedrock			---	---	---	---	---	---	---	---

Table 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
169:												
Wodomont-------	0-2	Extremely cobbly sandy loam	GM	A-1	0-15	40-50	40-50	35-45	20-30	10-20	10-25	NP-5
	2-8	Extremely gravelly sandy loam	GM	A-1	0	30-40	25-35	20-30	10-20	5-15	10-25	NP-5
	8-18	Extremely gravelly sandy loam	GM	A-1	0	30-40	25-35	20-30	10-20	5-15	10-25	NP-5
	>18	Unweathered bedrock			---	---	---	---	---	---	---	---
Metuck---------	0-2	Extremely cobbly sandy loam	GP-GM	A-1	0-15	50-70	40-50	35-45	25-35	5-10	15-20	NP-5
	2-6	Very gravelly sandy loam	GM	A-2	0	0-15	50-55	45-50	30-50	20-35	25-30	NP-5
	>6	Unweathered bedrock			---	---	---	---	---	---	---	---
Rock outcrop---	---	---	---	---	---	---	---	---	---	---	---	---
170:												
Wodomont-------	0-2	Very gravelly loam	GC, GC-GM, GM	A-1, A-2, A-4	0	0	30-55	25-50	20-50	15-40	15-30	NP-10
	2-12	Very gravelly loam	SC-SM, SM	A-4	0	25-35	60-70	55-65	40-50	35-45	15-30	NP-10
	12-15	Very gravelly silt loam	GM	A-4, A-2	0	5-10	50-55	45-50	40-50	30-45	20-25	NP-5
	>15	Unweathered bedrock			---	---	---	---	---	---	---	---
Rock outcrop---	---	---	---	---	---	---	---	---	---	---	---	---

Table 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
171:												
Yahana family--------	0-4	Silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	85-95	30-45	10-20
	4-8	Stratified silty clay	CH, CL, CL-ML	A-4, A-6, A-7	0	0	100	100	85-100	50-95	20-60	5-35
	8-29	Silt loam	CL, CL-ML	A-4	0	0	95-100	90-100	80-100	65-90	25-30	5-10
	29-41	Stratified silty clay	CH, CL, CL-ML	A-4, A-6, A-7	0	0	100	100	85-100	50-95	20-60	5-35
	41-56	Silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	85-95	30-45	10-20
	56-60	Fine sand	SM	A-2	0	0	100	100	60-80	20-25	0-14	NP
172:												
Zibate family--------	0-2	Very gravelly loam	GM	A-4	0	0	35-55	30-50	25-50	15-45	30-40	5-10
	2-5	Very gravelly clay loam	GC	A-2	0	0	35-50	30-45	25-45	20-35	30-40	10-15
	5-13	Extremely gravelly sandy clay loam	GC	A-2	0	0	30-50	10-25	10-20	5-15	30-35	20-25
	>13	Unweathered bedrock			---	---	---	---	---	---	---	---
173:												
Zibate family--------	0-2	Very stony loam	SP-SM	A-1	30-40	20-30	55-70	50-65	25-30	5-10	15-25	NP-5
	2-17	Very stony clay loam	CL	A-7	30-40	20-30	85-90	80-85	75-85	60-70	45-50	25-30
	>17	Unweathered bedrock			---	---	---	---	---	---	---	---
174:												
Zibate family--------	0-1	Very cobbly loam	GM	A-1	0-5	30-45	50-60	45-55	25-50	15-20	20-25	NP-10
	1-5	Very cobbly silty clay loam	CL, GC, GM, ML	A-1, A-2, A-4, A-6	0	25-55	30-80	25-75	20-75	20-70	0-40	NP-15
	5-10	Very cobbly clay	CH, SC, GC, CL	A-7	0	25-50	55-80	50-75	45-70	40-70	40-60	15-40
	>10	Unweathered bedrock			---	---	---	---	---	---	---	---

Table 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
174:												
Dutchflat------	0-3	Sandy loam	SC-SM	A-2	0	0	85-100	80-100	50-70	25-35	20-25	NP-5
	3-7	Sandy loam	SC-SM	A-2	0	0	85-100	80-100	50-70	25-35	20-25	NP-5
	7-24	Gravelly sandy clay loam	SM	A-2	0	0	60-75	55-70	25-55	15-35	25-35	5-10
	24-39	Gravelly sandy loam	SM	A-2	0	0	60-80	55-75	50-75	20-35	25-30	NP-5
	39-60	Very gravelly loamy sand	GW-GM	A-1	0	0	35-45	30-40	15-30	5-10	10-15	NP
Tumarion-------	0-2	Extremely cobbly sandy loam	SW-SM	A-1	0-15	75-85	55-65	50-60	20-40	5-10	15-25	NP-5
	2-15	Very cobbly sandy loam	SW-SM	A-1	0	30-40	60-80	55-75	20-40	5-10	15-25	NP-5
	15-19	Indurated			---	---	---	---	---	---	---	---
	>19	Unweathered bedrock			---	---	---	---	---	---	---	---

Table 14.--Physical Soil Properties

(Entries under "Erosion factors--T" apply to the entire profile. Entries under "Wind erodibility group" and "Wind erodibility index" apply only to the surface layer. Absence of an entry indicates that data were not estimated.)

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
1:												
Alko family	0-1	8-18	1.25-1.55	2-6	0.06-0.14	0.0-2.9	0.5-1.0	.17	.43	1	5	56
	1-10	8-18	1.25-1.55	2-6	0.07-0.15	0.0-2.9	0.5-1.0	.20	.43			
	10-15	8-18	1.25-1.55	2-6	0.07-0.15	0.0-2.9	0.5-1.0	.20	.43			
	15-31	---	---	0.00-0.06	---	---	---	---	---			
	31-60	0-15	1.55-1.65	6-20	0.01-0.03	0.0-2.9	0.0-0.5	.02	.02			
2:												
Alko family	0-2	8-18	1.25-1.55	2-6	0.07-0.15	0.0-2.9	0.5-1.0	.20	.43	1	4	86
	2-10	8-18	1.25-1.55	2-6	0.07-0.15	0.0-2.9	0.5-1.0	.20	.43			
	10-18	8-18	1.25-1.55	2-6	0.07-0.15	0.0-2.9	0.5-1.0	.20	.43			
	18-31	---	---	0.00-0.06	---	---	---	---	---			
	31-60	0-15	1.55-1.65	6-20	0.01-0.03	0.0-2.9	0.0-0.5	.02	.02			
3:												
Appleseed	0-2	5-18	1.20-1.30	2-6	0.05-0.08	0.0-2.9	0.5-1.0	.10	.24	1	5	56
	2-11	5-18	1.20-1.30	2-6	0.05-0.08	0.0-2.9	0.5-1.0	.10	.24			
	>11	---	---	0.00- 0.00	---	---	---	---	---			
Huevi	0-2	5-18	1.35-1.50	2-6	0.04-0.08	0.0-3.0	0.2-0.8	.10	.24	5	5	56
	2-18	5-18	1.35-1.50	2-6	0.04-0.08	0.0-3.0	0.2-0.8	.10	.24			
	18-60	10-18	1.25-1.40	2-6	0.08-0.09	0.0-2.9	0.2-0.8	.10	.32			
4:												
Aridic Argiustolls	---	---	---	---	---	---	---	---	---	5	4	86
Lithic Haplustolls	---	---	---	---	---	---	---	---	---	1	7	38
5:												
Arizo	0-6	1-8	1.55-1.70	6-20	0.04-0.07	0.0-2.9	0.0-0.5	.15	.24	5	3	86
	6-20	1-5	1.45-1.55	6-20	0.01-0.02	0.0-2.9	0.0-0.5	.02	.10			
	20-60	5-15	1.45-1.55	6-20	0.02-0.06	0.0-2.9	0.0-0.5	.02	.15			
Detrital	0-3	15-18	1.35-1.50	2-6	0.07-0.13	0.0-2.9	0.2-0.8	.20	.24	5	4	86
	3-24	15-18	1.35-1.50	2-6	0.02-0.08	0.0-2.9	0.1-0.3	.05	.24			
	24-60	15-18	1.35-1.50	2-6	0.02-0.08	0.0-2.9	0.1-0.3	.10	.24			
Nickel	0-3	5-18	1.35-1.50	2-6	0.03-0.05	0.0-3.0	0.0-1.0	.05	.24	4	8	0
	3-19	5-18	1.35-1.50	0.2-0.6	0.04-0.08	0.0-3.0	0.0-1.0	.10	.24			
	19-60	5-18	1.35-1.50	2-6	0.03-0.05	0.0-3.0	0.0-1.0	.05	.24			

Table 14.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
6:												
Arizo	0-2	5-18	1.35-1.55	2-6	0.05-0.11	0.0-2.9	0.5-1.0	.10	.17	5	4	86
	2-11	5-18	1.35-1.55	2-6	0.05-0.11	0.0-2.9	0.5-1.0	.10	.17			
	11-15	5-18	1.35-1.55	2-6	0.06-0.13	0.0-2.9	0.5-1.0	.15	.17			
	15-35	0-15	1.45-1.65	6-20	0.01-0.03	0.0-2.9	0.5-1.0	.02	.10			
	35-60	0-15	1.55-1.65	6-20	0.02-0.04	0.0-2.9	0.5-1.0	.02	.10			
Franconia	0-2	5-18	1.45-1.65	2-6	0.08-0.13	0.0-2.9	0.5-1.0	.20	.24	5	3	86
	2-18	0-15	1.55-1.65	6-20	0.06-0.08	0.0-2.9	0.5-1.0	.15	.17			
	18-33	0-15	1.55-1.65	6-20	0.06-0.08	0.0-2.9	0.5-1.0	.15	.17			
	33-60	0-15	1.55-1.65	6-20	0.04-0.07	0.0-2.9	0.5-1.0	.10	.17			
Riverwash	---	---	---	---	---	---	---	---	---	5	8	0
7:												
Arizo	0-1	5-18	1.35-1.50	2-6	0.07-0.11	0.0-3.0	0.0-1.0	.15	.24	5	4	86
	1-9	2-10	1.45-1.55	6-20	0.05-0.08	0.0-3.0	0.0-1.0	.15	.15			
	9-60	2-10	1.45-1.55	6-20	0.01-0.03	0.0-3.0	0.0-1.0	.02	.15			
Riverwash	---	---	---	---	---	---	---	---	---	5	8	0
8:												
Arizo	0-6	0-8	1.55-1.70	6-20	0.04-0.07	0.0-2.9	0.0-0.5	.15	.24	5	3	86
	6-20	0-1	1.45-1.55	6-20	0.01-0.02	0.0-2.9	0.0-0.5	.02	.10			
	20-60	5-15	1.45-1.55	6-20	0.02-0.06	0.0-2.9	0.0-0.5	.02	.15			
Riverwash	---	---	---	---	---	---	---	---	---	5	8	0
9:												
Arizo	0-6	0-8	1.55-1.70	6-20	0.04-0.07	0.0-2.9	0.0-0.5	.15	.24	5	3	86
	6-12	0-8	1.55-1.70	6-20	0.04-0.07	0.0-2.9	0.0-0.5	.15	.24			
	12-60	1-3	1.45-1.60	20-30	0.03-0.06	0.0-2.9	0.1-0.2	.02	.17			
Riverwash	---	---	---	---	---	---	---	---	---	5	8	0
10:												
Arizo	0-60	1-3	1.45-1.60	20-30	0.03-0.06	0.0-2.9	0.2-0.8	.02	.17	5	8	0
Riverwash	---	---	---	---	---	---	---	---	---	5	8	0

Table 14.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
11:												
Azure	0-2	5-17	1.35-1.50	2-6	0.04-0.08	0.0-3.0	0.0-1.0	.10	.24	1	5	56
	2-6	12-17	1.35-1.50	2-6	0.04-0.08	0.0-3.0	0.0-1.0	.10	.24			
	6-10	12-17	1.35-1.50	2-6	0.04-0.08	0.0-3.0	0.0-1.0	.10	.24			
	10-28	---	---	0.00-0.06	---	---	---	---	---			
	>28	---	---	0.00- 0.00	---	---	---	---	---			
Detrital	0-2	5-20	1.30-1.50	2-6	0.04-0.08	0.0-3.0	0.0-1.0	.10	.24	5	5	56
	2-27	5-20	1.30-1.50	2-6	0.04-0.08	0.0-3.0	0.0-1.0	.10	.24			
	27-60	5-20	1.30-1.50	2-6	0.04-0.08	0.0-3.0	0.0-1.0	.10	.24			
Antares	0-3	10-18	1.35-1.55	2-6	0.03-0.08	0.0-3.0	0.5-1.0	.05	.24	1	5	56
	3-18	10-18	1.35-1.55	2-6	0.03-0.08	0.0-3.0	0.5-1.0	.05	.24			
	18-60	---	---	0.00-0.06	---	---	---	---	---			
12:												
Birdsbeak	0-2	7-27	1.15-1.25	0.6-2	0.05-0.12	0.0-3.0	1.0-2.0	.10	.37	1	7	38
	2-4	27-35	1.25-1.50	0.2-0.6	0.07-0.14	3.0-6.0	1.0-2.0	.10	.32			
	4-8	40-50	1.15-1.30	0.06-0.2	0.05-0.10	6.0-9.0	1.0-2.0	.05	.20			
	8-20	---	---	0.00-0.06	---	---	---	---	---			
	20-60	---	---	0.00-0.06	---	---	---	---	---			
13:												
Bluebird	0-2	15-18	1.35-1.50	2-6	0.06-0.10	0.0-2.9	0.5-1.0	.05	.24	5	5	56
	2-5	8-18	1.35-1.50	2-6	0.03-0.08	0.0-2.9	0.5-1.0	.15	.24			
	5-30	22-27	1.25-1.40	0.2-0.6	0.01-0.07	0.0-2.9	0.0-0.5	.05	.32			
	30-60	7-20	1.35-1.45	6-20	0.04-0.05	0.0-2.9	0.0-0.5	.02	.20			
Detrital	0-1	10-18	1.35-1.50	2-6	0.06-0.10	0.0-2.9	0.5-1.0	.05	.24	5	5	56
	1-13	5-20	1.35-1.50	2-6	0.07-0.11	0.0-3.0	0.0-1.0	.15	.24			
	13-60	5-20	1.30-1.50	2-6	0.04-0.08	0.0-3.0	0.0-1.0	.10	.24			
14:												
Bluebird	0-2	15-28	1.25-1.40	0.6-2	0.13-0.18	0.0-2.9	0.5-1.0	.32	.32	5	5	56
	2-8	20-27	1.25-1.40	0.6-2	0.09-0.15	0.0-2.9	0.5-1.0	.10	.32			
	8-20	20-27	1.25-1.40	0.6-2	0.09-0.15	0.0-2.9	0.0-0.5	.10	.32			
	20-60	20-27	1.25-1.40	0.2-0.6	0.05-0.11	0.0-2.9	0.0-0.5	.10	.32			
Lostman	0-3	10-18	1.35-1.50	2-6	0.07-0.13	0.0-2.9	1.0-2.0	.20	.24	5	4	86
	3-12	10-18	1.35-1.50	2-6	0.07-0.13	0.0-2.9	1.0-2.0	.20	.24			
	12-57	10-18	1.25-1.55	2-6	0.07-0.15	0.0-2.9	0.5-1.0	.20	.43			
	57-68	21-35	1.25-1.40	2-6	0.10-0.13	0.0-2.9	0.0-0.5	.17	.32			

Table 14.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
15:												
Carrizo----------	0-1	10-18	1.35-1.50	6-20	0.02-0.08	0.0-2.9	0.0-0.5	.05	.24	5	8	0
	1-4	10-18	1.35-1.50	6-20	0.09-0.18	0.0-2.9	0.0-0.5	.20	.24			
	4-60	2-10	1.45-1.55	6-20	0.01-0.03	0.0-3.0	0.0-0.5	.02	.17			
Carrizo, rarely flooded----------	0-2	10-18	1.35-1.50	7-20	0.02-0.08	0.0-2.9	0.0-0.5	.05	.24	5	8	0
	2-60	2-10	1.45-1.55	7-20	0.01-0.03	0.0-3.0	0.0-0.5	.02	.17			
16:												
Carrizo----------	0-2	12-15	1.35-1.45	6-20	0.03-0.08	0.0-2.9	0.0-0.5	.05	.17	5	3	86
	2-6	2-4	1.45-1.60	20-35	0.01-0.04	0.0-2.9	0.0-0.5	.02	.15			
	6-17	12-15	1.35-1.45	6-20	0.03-0.08	0.0-2.9	0.0-0.5	.05	.17			
	17-60	2-10	1.45-1.55	6-20	0.01-0.03	0.0-3.0	0.0-0.5	.02	.17			
Riverwash----------	---	---	---	---	---	---	---	---	---	5	8	0
17:												
Carrizo----------	0-1	2-10	1.45-1.55	7-20	0.01-0.03	0.0-3.0	0.0-0.5	.02	.17	5	8	0
	1-23	2-10	1.45-1.55	7-20	0.01-0.03	0.0-3.0	0.0-0.5	.02	.17			
	23-60	0-5	1.45-1.55	20-46	0.01-0.03	0.0-3.0	0.0-0.5	.02	.10			
Riverwash----------	---	---	---	---	---	---	---	---	---	5	8	0
18:												
Chuckawalla----------	0-1	5-18	1.00-1.55	0.6-2	0.02-0.08	0.0-2.9	0.5-1.0	.05	.55	5	8	0
	1-5	18-27	1.25-1.55	0.6-2	0.08-0.15	0.0-2.9	0.5-1.0	.17	.32			
	5-20	18-27	1.25-1.55	0.6-2	0.05-0.12	0.0-2.9	0.5-1.0	.10	.32			
	20-29	0-15	1.45-1.65	6-20	0.01-0.03	0.0-2.9	0.5-1.0	.02	.10			
	29-34	5-18	1.35-1.55	2-6	0.03-0.08	0.0-2.9	0.5-1.0	.05	.17			
	34-60	0-15	1.45-1.65	6-20	0.02-0.05	0.0-2.9	0.5-1.0	.02	.10			
Riverbend----------	0-2	7-15	1.45-1.65	6-20	0.06-0.08	0.0-2.9	0.5-1.0	.17	.64	5	5	56
	2-7	10-18	1.45-1.65	6-20	0.06-0.08	0.0-2.9	0.5-1.0	.10	.28			
	7-18	5-12	1.55-1.65	6-20	0.03-0.05	0.0-2.9	0.5-1.0	.05	.17			
	18-34	0-15	1.45-1.65	6-20	0.02-0.05	0.0-2.9	0.5-1.0	.02	.10			
	34-60	0-5	1.60-1.75	20-100	0.03-0.05	0.0-2.9	0.2-0.8	.02	.10			
19:												
Circular----------	0-4	7-18	1.25-1.50	2-6	0.14-0.18	0.0-3.0	0.0-1.0	.32	.32	5	5	56
	4-27	7-18	1.25-1.50	2-6	0.14-0.18	0.0-3.0	0.0-1.0	.32	.32			
	27-60	7-18	1.25-1.50	2-6	0.14-0.18	0.0-3.0	0.0-1.0	.32	.32			

Table 14.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
19:												
Circular	0-3	5-18	1.35-1.55	2-6	0.06-0.13	0.0-2.9	0.5-1.0	.15	.17	5	4	86
	3-11	5-18	1.35-1.55	2-6	0.06-0.13	0.0-2.9	0.5-1.0	.15	.17			
	11-22	5-18	1.35-1.55	2-6	0.06-0.13	0.0-2.9	0.5-1.0	.15	.17			
	22-36	5-20	1.25-1.50	2-6	0.08-0.11	0.0-3.0	0.5-1.0	.10	.15			
	36-45	5-18	1.25-1.50	2-6	0.08-0.11	0.0-3.0	0.5-1.0	.10	.15			
	45-60	0-15	1.55-1.65	6-20	0.04-0.07	0.0-2.9	0.5-1.0	.10	.17			
20:												
Circular	0-2	5-18	1.45-1.65	2-6	0.11-0.13	0.0-3.0	0.5-1.0	.24	.24	4	3	86
	2-35	5-18	1.45-1.65	2-6	0.11-0.13	0.0-3.0	0.5-1.0	.20	.24			
	35-44	5-18	1.45-1.65	2-6	0.11-0.13	0.0-3.0	0.5-1.0	.20	.24			
	44-60	2-10	1.55-1.65	6-20	0.07-0.08	0.0-3.0	0.5-1.0	.15	.17			
Dusty	0-2	5-18	1.45-1.65	2-6	0.11-0.13	0.0-3.0	0.5-1.0	.20	.24	5	3	86
	2-4	7-18	1.35-1.55	0.6-2	0.16-0.18	0.0-3.0	0.5-1.0	.32	.37			
	4-20	27-35	1.25-1.55	0.00-0.06	0.19-0.21	3.0-6.0	0.5-1.0	.28	.32			
	20-35	20-27	1.55-1.65	0.2-0.6	0.14-0.16	3.0-6.0	0.5-1.0	.28	.32			
	35-60	7-27	1.35-1.55	0.6-2	0.11-0.13	0.0-3.0	0.5-1.0	.32	.37			
21:												
Cod	0-2	7-18	1.45-1.65	2-6	0.07-0.11	0.0-3.0	0.5-1.0	.15	.24	5	4	86
	2-14	7-18	1.45-1.65	2-6	0.07-0.11	0.0-3.0	0.5-1.0	.15	.24			
	14-20	7-18	1.45-1.65	2-6	0.07-0.11	0.0-3.0	0.5-1.0	.15	.24			
	20-48	7-18	1.45-1.65	2-6	0.07-0.11	0.0-3.0	0.5-1.0	.15	.24			
	48-60	7-20	1.45-1.65	2-6	0.04-0.08	0.0-3.0	0.5-1.0	.10	.24			
22:												
Cordes	0-2	5-18	1.35-1.55	2-6	0.06-0.13	0.0-2.9	0.5-1.0	.15	.17	5	3	86
	2-32	5-18	1.35-1.55	2-6	0.06-0.13	0.0-2.9	0.5-1.0	.15	.17			
	32-60	5-18	1.45-1.65	2-6	0.04-0.08	0.0-2.9	0.5-1.0	.10	.24			
Manikan	0-3	5-18	1.35-1.55	2-6	0.06-0.13	0.0-2.9	0.5-1.0	.15	.17	5	5	56
	3-24	18-27	1.55-1.65	0.2-0.6	0.14-0.16	3.0-6.0	0.5-1.0	.32	.32			
	24-39	18-27	1.55-1.65	0.2-0.6	0.14-0.16	3.0-6.0	0.5-1.0	.32	.32			
	39-60	15-25	1.25-1.40	2-6	0.13-0.18	0.0-2.9	0.5-1.0	.32	.32			
Riverwash	---	---	---	---	---	---	---	---	---	--	---	---

Table 14.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
23:												
Cupel	0-2	5-18	1.45-1.65	2-6	0.04-0.08	0.0-3.0	0.5-1.0	.10	.24	1	5	56
	2-12	20-27	1.55-1.65	0.6-2	0.03-0.06	3.0-6.0	0.5-1.0	.10	.32			
	12-17	20-27	1.55-1.65	0.6-2	0.03-0.06	3.0-6.0	0.5-1.0	.10	.32			
	>17	---	---	0.00- 0.00	---	---	---	---	---			
Rock outcrop	---	---	---	---	---	---	---	---	---	--	8	0
24:												
Cyclopic	0-2	10-18	1.35-1.50	2-6	0.06-0.10	0.0-2.9	0.5-1.0	.05	.24	2	5	56
	2-5	25-55	1.25-1.40	0.6-2	0.03-0.06	0.0-2.9	0.5-1.0	.05	.32			
	5-25	35-55	1.35-1.55	0.06-0.2	0.05-0.10	3.0-6.0	0.5-1.0	.05	.20			
	25-60	---	---	0.00-0.06	---	---	---	---	---			
25:												
Deluge	0-2	5-20	1.45-1.65	2-6	0.04-0.08	1.0-3.0	0.5-1.0	.10	.24	2	5	56
	2-8	20-35	1.55-1.65	0.2-0.6	0.05-0.10	3.0-6.0	0.5-1.0	.10	.32			
	8-18	20-35	1.55-1.65	0.2-0.6	0.05-0.10	3.0-6.0	0.5-1.0	.10	.32			
	18-24	20-35	1.55-1.65	0.2-0.6	0.05-0.10	3.0-6.0	0.5-1.0	.10	.32			
	24-52	---	---	0.00-0.06	---	---	---	---	---			
	>52	---	---	0.00- 0.00	---	---	---	---	---			
Gotchell	0-2	5-18	1.45-1.65	2-6	0.03-0.05	0.0-3.0	0.5-1.0	.05	.24	1	8	0
	2-14	5-18	1.45-1.65	2-6	0.03-0.05	0.0-3.0	0.5-1.0	.05	.24			
	14-28	---	---	0.00-0.06	---	---	---	---	---			
	>28	---	---	0.00- 0.00	---	---	---	---	---			
Sunstroke	0-2	5-18	1.45-1.65	2-6	0.03-0.05	0.0-3.0	0.5-1.0	.05	.24	2	8	0
	2-18	5-18	1.45-1.65	2-6	0.03-0.05	0.0-3.0	0.5-1.0	.05	.24			
	18-24	5-18	1.45-1.65	2-6	0.03-0.05	0.0-3.0	0.5-1.0	.05	.24			
	24-45	---	---	0.00-0.06	---	---	---	---	---			
	>45	---	---	0.00- 0.00	---	---	---	---	---			
26:												
Detrital	0-2	5-20	1.30-1.50	2-6	0.04-0.08	0.0-3.0	0.0-1.0	.10	.24	5	5	56
	2-60	5-20	1.30-1.50	2-6	0.04-0.08	0.0-3.0	0.0-1.0	.10	.24			
Bluebird	0-3	20-27	1.55-1.65	0.2-0.6	0.07-0.14	3.0-6.0	0.5-1.0	.10	.32	5	7	38
	3-18	20-27	1.55-1.65	0.2-0.6	0.05-0.08	3.0-9.0	0.5-1.0	.10	.32			
	18-44	5-18	1.55-1.75	2-6	0.03-0.05	0.0-3.0	0.5-1.0	.02	.20			
	44-60	20-27	1.55-1.65	0.2-0.6	0.07-0.14	3.0-6.0	0.5-1.0	.10	.32			

Table 14.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
27:												
Detrital----------	0-2	12-18	1.35-1.50	2-6	0.07-0.13	0.0-2.9	0.2-0.8	.20	.24	5	4	86
	2-14	12-18	1.35-1.50	2-6	0.07-0.13	0.0-2.9	0.2-0.8	.20	.24			
	14-45	12-18	1.35-1.50	2-6	0.03-0.08	0.0-2.9	0.1-0.2	.05	.20			
	45-60	12-18	1.35-1.50	2-6	0.03-0.08	0.0-2.9	0.1-0.2	.05	.20			
Nealy----------	0-2	15-20	1.25-1.40	0.6-2	0.11-0.14	0.0-2.9	0.5-1.0	.24	.32	2	6	48
	2-14	5-20	1.35-1.50	2-6	0.07-0.09	0.0-3.0	0.5-1.0	.15	.24			
	14-33	20-35	1.25-1.50	0.6-2	0.11-0.12	0.0-3.0	0.0-0.5	.15	.32			
	33-48	---	---	0.00-0.06	---	---	---	---	---			
	48-60	0-10	1.45-1.55	20-46	0.01-0.03	0.0-3.0	0.0-0.5	.02	.10			
28:												
Detrital----------	0-2	5-20	1.25-1.35	2-6	0.07-0.11	0.0-3.0	0.0-1.0	.15	.24	5	4	86
	2-60	5-20	1.30-1.50	2-6	0.04-0.08	0.0-3.0	0.0-1.0	.10	.24			
Nickel----------	0-2	5-18	1.35-1.50	2-6	0.04-0.08	0.0-3.0	1.0-2.0	.10	.24	4	5	56
	2-11	5-18	1.35-1.50	0.2-0.6	0.04-0.08	0.0-3.0	0.0-1.0	.10	.24			
	11-28	5-10	1.35-1.50	2-6	0.01-0.06	0.0-2.9	0.0-1.0	.05	.28			
	28-46	5-18	1.35-1.50	2-6	0.03-0.05	0.0-3.0	0.0-1.0	.05	.24			
	46-60	5-10	1.35-1.50	2-6	0.01-0.06	0.0-2.9	0.0-1.0	.05	.28			
29:												
Detrital----------	0-1	5-20	1.25-1.35	2-6	0.07-0.11	0.0-3.0	0.0-1.0	.15	.24	5	4	86
	1-13	5-20	1.35-1.50	2-6	0.07-0.11	0.0-3.0	0.0-1.0	.15	.24			
	13-26	5-20	1.30-1.50	2-6	0.04-0.08	0.0-3.0	0.0-1.0	.10	.24			
	26-60	5-20	1.35-1.50	2-6	0.02-0.08	0.0-2.9	0.0-1.0	.05	.24			
Nickel family-------	0-2	5-18	1.35-1.50	2-6	0.07-0.11	0.0-3.0	0.0-1.0	.15	.24	4	4	86
	2-21	5-18	1.35-1.50	0.2-0.6	0.07-0.11	0.0-3.0	0.0-1.0	.15	.24			
	21-42	5-18	1.35-1.50	2-6	0.04-0.08	0.0-3.0	0.0-1.0	.10	.24			
	42-60	---	---	0.00-0.06	---	---	---	---	---			
30:												
Detrital----------	0-2	5-18	1.30-1.50	2-6	0.04-0.08	0.0-3.0	0.0-1.0	.10	.24	5	5	56
	2-60	5-18	1.30-1.50	2-6	0.04-0.08	0.0-3.0	0.0-1.0	.10	.24			
Skelon family-------	0-2	10-18	1.35-1.50	2-6	0.03-0.09	0.0-2.9	0.5-1.0	.10	.24	2	5	56
	2-22	10-18	1.35-1.50	2-6	0.03-0.09	0.0-2.9	0.5-1.0	.10	.24			
	22-60	---	---	0.00-0.06	---	---	---	---	---			

Table 14.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
31:												
Dusty	0-2	5-18	1.45-1.65	2-6	0.11-0.13	0.0-3.0	0.5-1.0	.20	.24	5	3	86
	2-6	7-20	1.35-1.55	0.6-2	0.16-0.18	0.0-3.0	0.5-1.0	.32	.37			
	6-10	18-27	1.35-1.55	0.6-2	0.16-0.18	0.0-3.0	0.5-1.0	.32	.37			
	10-19	27-35	1.25-1.55	0.00-0.06	0.19-0.21	3.0-6.0	0.2-0.8	.28	.32			
	19-24	20-27	1.55-1.65	0.2-0.6	0.14-0.16	3.0-6.0	0.2-0.8	.28	.32			
	24-31	20-27	1.55-1.65	0.2-0.6	0.14-0.16	3.0-6.0	0.2-0.8	.28	.32			
	31-50	27-35	1.25-1.55	0.2-0.6	0.19-0.21	3.0-6.0	0.2-0.8	.28	.32			
	50-60	5-18	1.45-1.65	2-6	0.11-0.13	0.0-3.0	0.2-0.8	.20	.24			
Kurstan family	0-3	8-18	1.35-1.50	2-6	0.08-0.13	0.0-2.9	0.5-1.0	.24	.24	5	3	86
	3-18	8-18	1.35-1.50	2-6	0.08-0.13	0.0-2.9	0.5-1.0	.24	.24			
	18-26	8-20	1.35-1.50	2-6	0.08-0.13	0.0-2.9	0.2-0.8	.24	.24			
	26-58	8-18	1.35-1.50	2-6	0.08-0.13	0.0-2.9	0.2-0.8	.24	.24			
	58-60	1-5	1.40-1.50	20-100	0.01-0.02	0.0-2.9	0.0-0.5	.02	.10			
32:												
Dutchflat	0-4	5-18	1.35-1.55	2-6	0.07-0.13	0.0-2.9	0.5-1.0	.15	.17	5	3	86
	4-37	20-27	1.55-1.75	0.6-2	0.12-0.19	3.0-5.9	0.5-1.0	.17	.20			
	37-60	5-18	1.35-1.75	2-6	0.06-0.12	0.0-2.9	0.5-1.0	.15	.15			
33:												
Dye	0-2	27-35	1.25-1.50	0.2-0.6	0.07-0.14	3.0-6.0	1.0-2.0	.10	.32	1	8	0
	2-13	40-60	1.15-1.30	0.06-0.2	0.13-0.16	6.0-9.0	1.0-2.0	.10	.32			
	>13	---	---	0.00- 0.00	---	---	---	---	---			
Tovar	0-1	12-17	1.35-1.50	0.6-2	0.03-0.05	0.0-3.0	1.0-2.0	.10	.28	2	8	0
	1-3	7-18	1.35-1.55	0.6-2	0.05-0.12	0.0-2.9	1.0-2.0	.15	.37			
	3-11	27-40	1.25-1.55	0.2-0.6	0.16-0.21	3.0-5.9	0.5-1.0	.24	.32			
	11-21	40-55	1.30-1.40	0.06-0.2	0.14-0.17	6.0-8.9	0.5-1.0	.28	.32			
	21-27	40-50	1.15-1.30	0.00-0.06	0.10-0.16	6.0-9.0	0.5-1.0	.15	.32			
	27-35	40-50	1.15-1.30	0.00-0.06	0.10-0.16	6.0-9.0	0.5-1.0	.15	.32			
	>35	---	---	0.00- 0.00	---	---	---	---	---			
Rock outcrop	---	---	---	---	---	---	---	---	---	--	8	0
34:												
Faraway	0-3	7-18	1.25-1.40	0.6-2	0.02-0.07	0.0-2.9	1.0-3.0	.05	.32	1	8	0
	3-7	15-27	1.15-1.25	0.6-2	0.09-0.12	0.0-2.9	1.0-3.0	.10	.32			
	7-9	---	---	0.00-0.06	---	---	---	---	---			
	>9	---	---	0.06-0.2	---	---	---	---	---			

Table 14.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
34:												
Rock outcrop	---	---	---	---	---	---	---	---	---	--	---	---
35:												
Fig	0-2	5-18	1.35-1.50	2-6	0.03-0.05	0.0-3.0	0.0-1.0	.05	.24	1	8	0
	2-9	5-18	1.35-1.50	2-6	0.04-0.08	0.0-3.0	0.0-1.0	.10	.24			
	9-60	---	---	0.00-0.06	---	---	---	---	---			
Blind	0-2	5-20	1.35-1.50	2-6	0.04-0.08	0.0-3.0	0.5-1.0	.10	.24	5	5	56
	2-5	5-20	1.35-1.50	2-6	0.04-0.08	0.0-3.0	0.5-1.0	.10	.24			
	5-15	20-30	1.25-1.50	0.6-2	0.05-0.10	0.0-3.0	0.5-1.0	.10	.32			
	15-27	20-30	1.25-1.50	0.6-2	0.05-0.10	0.0-3.0	0.5-1.0	.10	.32			
	27-44	20-30	1.25-1.50	0.6-2	0.05-0.10	0.0-3.0	0.5-1.0	.10	.32			
	44-60	20-30	1.25-1.50	0.6-2	0.05-0.10	0.0-3.0	0.5-1.0	.10	.32			
Nodman	0-2	5-18	1.35-1.50	2-6	0.04-0.07	0.0-3.0	0.5-1.0	.05	.24	1	8	0
	2-5	5-18	1.35-1.50	2-6	0.04-0.07	0.0-3.0	0.5-1.0	.05	.24			
	5-8	20-35	1.25-1.50	0.2-0.6	0.04-0.07	6.0-9.0	0.5-1.0	.10	.32			
	8-10	20-35	1.25-1.50	0.2-0.6	0.04-0.07	6.0-9.0	0.5-1.0	.10	.32			
	10-60	---	---	0.00-0.06	---	---	---	---	---			
36:												
Filaree	0-2	5-20	1.25-1.50	2-6	0.08-0.11	0.0-3.0	0.5-1.0	.10	.15	5	4	86
	2-18	5-20	1.25-1.50	2-6	0.08-0.11	0.0-3.0	0.5-1.0	.10	.15			
	18-34	5-18	1.25-1.50	2-6	0.08-0.11	0.0-3.0	0.5-1.0	.10	.15			
	34-60	5-18	1.25-1.50	2-6	0.08-0.11	0.0-3.0	0.5-1.0	.10	.15			
37:												
Filaree	0-2	5-20	1.25-1.50	2-6	0.08-0.11	0.0-3.0	0.5-1.0	.10	.15	5	4	86
	2-60	5-18	1.25-1.50	2-6	0.08-0.11	0.0-3.0	0.5-1.0	.10	.15			
Dutchflat	0-3	8-15	1.35-1.50	2-6	0.08-0.13	0.0-2.9	0.5-1.0	.24	.24	5	3	86
	3-7	8-15	1.35-1.50	2-6	0.08-0.13	0.0-2.9	0.5-1.0	.24	.24			
	7-24	20-24	1.25-1.40	0.6-2	0.09-0.15	0.0-2.9	0.2-0.8	.10	.32			
	24-39	10-18	1.35-1.50	0.6-2	0.09-0.18	0.0-2.9	0.2-0.8	.20	.24			
	39-60	2-5	1.45-1.65	6-20	0.02-0.04	0.0-2.9	0.2-0.8	.05	.17			

Table 14.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
38:												
Garnet	0-2	10-18	1.35-1.50	2-6	0.07-0.13	0.0-2.9	0.5-1.0	.20	.24	5	4	86
	2-7	10-18	1.35-1.50	2-6	0.08-0.13	0.0-2.9	0.5-1.0	.24	.24			
	7-11	20-35	1.25-1.40	0.6-2	0.14-0.19	0.0-2.9	0.2-0.8	.28	.32			
	11-20	20-35	1.25-1.40	0.6-2	0.14-0.19	0.0-2.9	0.2-0.8	.28	.32			
	20-23	20-35	1.25-1.40	0.2-0.6	0.05-0.11	0.0-2.9	0.2-0.8	.10	.32			
	23-30	5-10	1.35-1.45	6-20	0.02-0.08	0.0-2.9	0.1-0.2	.02	.17			
	30-60	0-5	1.45-1.55	20-46	0.01-0.03	0.0-3.0	0.0-0.5	.02	.10			
Dutchflat	0-3	8-15	1.35-1.50	2-6	0.08-0.13	0.0-2.9	0.5-1.0	.24	.24	5	3	86
	3-7	8-15	1.35-1.50	2-6	0.08-0.13	0.0-2.9	0.5-1.0	.24	.24			
	7-24	20-24	1.25-1.40	0.6-2	0.09-0.15	0.0-2.9	0.2-0.8	.10	.32			
	24-39	10-18	1.35-1.50	0.6-2	0.09-0.18	0.0-2.9	0.2-0.8	.20	.24			
	39-60	2-5	1.45-1.65	6-20	0.02-0.04	0.0-2.9	0.2-0.8	.05	.17			
39:												
Goesling family	0-2	5-18	1.05-1.15	0.6-2	0.16-0.21	0.0-3.0	1.0-3.0	.32	.43	5	4L	86
	2-15	22-27	1.25-1.50	0.6-2	0.14-0.18	0.0-3.0	1.0-2.0	.24	.32			
	15-60	27-40	1.25-1.50	0.2-0.6	0.16-0.21	3.0-6.0	1.0-2.0	.24	.32			
40:												
Goldroad	0-2	5-18	1.25-1.35	2-6	0.04-0.08	0.0-3.0	0.0-1.0	.10	.24	1	5	56
	2-5	5-18	1.30-1.50	2-6	0.04-0.08	0.0-3.0	0.0-1.0	.10	.24			
	5-6	---	---	0.00-0.06	---	---	---	---	---			
	>6	---	---	0.00- 0.00	---	---	---	---	---			
Rock outcrop	---	---	---	---	---	---	---	---	---	--	8	0
41:												
Goldroad	0-1	5-18	1.25-1.35	2-6	0.04-0.08	0.0-3.0	0.0-1.0	.10	.24	1	5	56
	1-8	5-18	1.25-1.35	2-6	0.04-0.08	0.0-3.0	0.0-1.0	.10	.24			
	>8	---	---	0.00- 0.00	---	---	---	---	---			
Rock outcrop	---	---	---	---	---	---	---	---	---	--	8	0
42:												
Gonzales	0-1	20-30	1.20-1.30	0.2-0.6	0.08-0.11	3.0-5.9	1.0-3.0	.17	.64	1	7	38
	1-7	40-55	1.30-1.40	0.06-0.2	0.14-0.17	6.0-8.9	1.0-3.0	.28	.32			
	7-14	40-55	1.30-1.40	0.06-0.2	0.14-0.17	6.0-8.9	1.0-3.0	.28	.32			
	14-17	---	---	0.00-0.06	---	---	---	---	---			
	>17	---	---	0.00- 0.00	---	---	---	---	---			
Rock outcrop	---	---	---	---	---	---	---	---	---	--	8	0

Table 14.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
43:												
Goodsprings family--	0-2	5-10	1.35-1.55	2-6	0.06-0.10	0.0-2.9	0.0-0.5	.10	.24	1	5	56
	2-18	7-12	1.25-1.55	0.6-2	0.09-0.14	0.0-2.9	0.0-0.5	.24	.49			
	18-39	---	---	0.00-0.06	---	---	---	---	---			
	39-60	0-5	1.55-1.65	6-20	0.01-0.03	0.0-2.9	0.0-0.5	.02	.15			
44:												
Gotchell----------	0-2	5-18	1.45-1.65	2-6	0.03-0.05	0.0-3.0	0.5-1.0	.05	.24	1	8	0
	2-14	5-18	1.45-1.65	2-6	0.03-0.05	0.0-3.0	0.5-1.0	.05	.24			
	14-28	---	---	0.00-0.06	---	---	---	---	---			
	>28	---	---	0.00- 0.00	---	---	---	---	---			
Sunstroke----------	0-2	5-18	1.45-1.65	2-6	0.03-0.05	0.0-3.0	0.5-1.0	.05	.24	2	8	0
	2-24	5-18	1.45-1.65	2-6	0.03-0.05	0.0-3.0	0.5-1.0	.05	.24			
	24-45	---	---	0.00-0.06	---	---	---	---	---			
	>45	---	---	0.00- 0.00	---	---	---	---	---			
45:												
Graham----------	0-2	7-27	1.35-1.55	0.06-2	0.07-0.12	0.0-2.9	1.0-3.0	.15	.37	1	7	38
	2-7	27-35	1.25-1.55	0.2-0.6	0.16-0.21	3.0-5.9	1.0-3.0	.24	.32			
	7-14	40-60	1.35-1.55	0.06-0.2	0.12-0.16	6.0-8.9	1.0-2.0	.15	.20			
	>14	---	---	0.00- 0.00	---	---	---	---	---			
Arivaca----------	0-2	27-35	1.25-1.55	0.2-0.6	0.03-0.15	0.0-2.9	0.3-1.0	.10	.37	2	8	0
	2-6	40-60	1.35-1.45	0.06-0.2	0.07-0.14	3.0-5.9	0.3-1.0	.10	.28			
	6-17	40-60	1.15-1.55	0.06-0.2	0.10-0.16	6.0-8.9	0.2-0.8	.20	.24			
	17-30	40-60	1.15-1.55	0.06-0.2	0.10-0.16	6.0-8.9	0.2-0.8	.20	.24			
	30-36	30-35	1.25-1.55	0.2-0.6	0.14-0.21	3.0-5.9	0.2-0.8	.24	.28			
	>36	---	---	0.00- 0.00	---	---	---	---	---			
46:												
Graham----------	0-2	7-27	1.35-1.55	0.06-2	0.07-0.12	0.0-2.9	1.0-3.0	.15	.37	1	7	38
	2-7	27-35	1.25-1.55	0.2-0.6	0.16-0.21	3.0-5.9	1.0-3.0	.24	.32			
	7-14	40-60	1.35-1.55	0.06-0.2	0.12-0.16	6.0-8.9	1.0-2.0	.15	.20			
	>14	---	---	0.00- 0.00	---	---	---	---	---			
Rock outcrop--------	---	---	---	---	---	---	---	---	---	--	8	0
47:												
Grandwash----------	0-1	10-20	1.35-1.50	2-6	0.03-0.04	0.0-2.9	1.0-2.0	.05	.24	1	8	0
	1-2	10-20	1.35-1.50	2-6	0.09-0.11	0.0-2.9	1.0-2.0	.15	.28			
	2-12	40-55	1.35-1.50	0.06-0.2	0.03-0.05	3.0-5.9	1.0-2.0	.05	.32			
	>12	---	---	0.00- 0.00	---	---	---	---	---			

Table 14.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
48:												
Greyeagle family----	0-2	8-18	1.55-1.75	2-6	0.03-0.05	0.0-3.0	0.5-1.0	.02	.20	1	8	0
	2-8	8-20	1.35-1.55	2-6	0.04-0.06	0.0-2.9	0.5-1.0	.05	.32			
	8-16	8-20	1.35-1.55	2-6	0.04-0.06	0.0-2.9	0.5-1.0	.05	.32			
	16-60	---	---	0.00-0.06	---	---	---	---	---			
49:												
Greyeagle family----	0-2	10-15	1.35-1.50	2-6	0.02-0.05	0.0-2.9	0.5-1.0	.02	.24	1	8	0
	2-14	10-15	1.35-1.50	2-6	0.02-0.05	0.0-2.9	0.5-1.0	.02	.24			
	14-60	---	---	0.00-0.06	---	---	---	---	---			
50:												
Greyeagle family----	0-2	10-15	1.35-1.50	6-20	0.01-0.03	0.0-2.9	0.5-1.0	.10	.20	1	5	56
	2-12	10-18	1.35-1.50	2-6	0.04-0.08	0.0-3.0	0.0-1.0	.10	.24			
	12-60	---	---	0.00-0.06	---	---	---	---	---			
Cyclopic----------	0-2	5-18	1.45-1.65	2-6	0.04-0.08	0.0-3.0	0.5-1.0	.10	.24	2	5	56
	2-5	27-35	1.25-1.55	0.2-0.6	0.05-0.08	3.0-6.0	0.5-1.0	.10	.32			
	5-16	35-55	1.35-1.55	0.06-0.2	0.03-0.06	3.0-6.0	0.5-1.0	.05	.20			
	16-26	35-55	1.35-1.55	0.06-0.2	0.05-0.10	3.0-6.0	0.5-1.0	.05	.20			
	26-60	---	---	0.00-0.06	---	---	---	---	---			
51:												
Greyeagle family----	0-2	5-18	1.35-1.50	2-6	0.05-0.10	0.0-2.9	0.5-1.0	.10	.24	1	5	56
	2-8	5-18	1.35-1.50	2-6	0.05-0.10	0.0-2.9	0.5-1.0	.10	.24			
	8-15	5-18	1.35-1.50	2-6	0.05-0.10	0.0-2.9	0.5-1.0	.10	.24			
	15-60	---	---	0.00-0.06	---	---	---	---	---			
Skelon family-------	0-2	14-18	1.35-1.50	2-6	0.06-0.08	0.0-2.9	0.5-1.0	.05	.20	2	5	56
	2-11	14-18	1.35-1.50	2-6	0.06-0.08	0.0-2.9	0.5-1.0	.05	.20			
	11-24	18-25	1.25-1.40	2-6	0.10-0.13	0.0-5.9	0.5-1.0	.10	.32			
	24-60	---	---	0.00-0.06	---	---	---	---	---			
52:												
Greyeagle family----	0-3	10-15	1.35-1.50	2-6	0.02-0.05	0.0-2.9	0.5-1.0	.02	.24	1	8	0
	3-12	10-18	1.35-1.50	2-6	0.02-0.05	0.0-2.9	0.5-1.0	.02	.24			
	12-60	---	---	0.00-0.06	---	---	---	---	---			
Skelon family-------	0-2	10-12	1.35-1.50	2-6	0.03-0.09	0.0-2.9	0.5-1.0	.10	.24	2	5	56
	2-13	10-12	1.35-1.50	2-6	0.03-0.09	0.0-2.9	0.5-1.0	.10	.24			
	13-24	10-15	1.35-1.50	2-6	0.02-0.05	0.0-2.9	0.5-1.0	.02	.24			
	24-60	---	---	0.00-0.06	---	---	---	---	---			

Table 14.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
53:												
Gypsids	---	---	---	---	---	---	---	---	---	1	5	56
54:												
Haplogypsids, eroded	---	---	---	---	---	---	---	---	---	1	4	86
Haplogypsids	---	---	---	---	---	---	---	---	---	1	8	0
55:												
Hassell family	0-4	7-27	1.35-1.55	0.6-2	0.14-0.18	0.0-2.9	1.0-3.0	.20	.37	3	5	56
	4-13	40-50	1.35-1.55	0.06-0.2	0.12-0.16	3.0-5.9	1.0-3.0	.20	.20			
	13-24	40-50	1.35-1.55	0.06-0.2	0.12-0.16	3.0-5.9	1.0-3.0	.20	.20			
	24-33	28-37	1.25-1.45	0.2-0.6	0.13-0.17	3.0-5.9	1.0-2.0	.15	.32			
	33-47	---	---	0.00-0.06	---	---	---	---	---			
	>47	---	---	0.00- 0.00	---	---	---	---	---			
Lampshire	0-1	10-20	1.35-1.55	0.6-2	0.05-0.12	0.0-2.9	1.0-3.0	.15	.37	1	7	38
	1-6	10-20	1.45-1.65	2-6	0.04-0.08	0.0-2.9	1.0-3.0	.10	.24			
	6-9	---	---	0.00-0.06	---	---	---	---	---			
	>9	---	---	0.00- 0.00	---	---	---	---	---			
Rock outcrop	---	---	---	---	---	---	---	---	---	1	8	0
56:												
Hindu	0-3	15-18	1.25-1.40	0.6-2	0.04-0.06	0.0-2.9	0.5-1.0	.05	.32	1	8	0
	3-9	15-18	1.25-1.40	0.6-2	0.08-0.09	0.0-2.9	0.0-0.8	.10	.32			
	>9	---	---	0.00- 0.00	---	---	---	---	---			
Rock outcrop	---	---	---	---	---	---	---	---	---	--	8	0
57:												
Hooks family	0-3	7-18	1.35-1.50	2-6	0.11-0.15	0.0-3.0	0.5-1.0	.20	.28	5	3	86
	3-17	18-24	1.25-1.50	2-6	0.14-0.16	0.0-3.0	0.0-0.5	.28	.32			
	17-39	18-24	1.25-1.50	2-6	0.14-0.16	0.0-3.0	0.0-0.5	.28	.32			
	39-55	18-24	1.25-1.50	2-6	0.14-0.16	0.0-3.0	0.0-0.5	.24	.32			
	55-60	18-24	1.25-1.50	2-6	0.14-0.16	0.0-3.0	0.0-0.5	.24	.32			
Courtland family	0-3	10-20	1.35-1.50	2-6	0.09-0.12	0.0-3.0	0.5-1.0	.17	.24	5	3	86
	3-12	20-22	1.35-1.50	0.6-2	0.09-0.13	3.0-6.0	0.0-0.5	.24	.32			
	12-36	16-20	1.35-1.50	0.6-2	0.09-0.12	0.0-3.0	0.0-0.5	.17	.24			
	36-44	27-35	1.25-1.40	0.2-0.6	0.09-0.13	3.0-6.0	0.0-0.5	.20	.32			
	44-60	27-35	1.25-1.40	0.2-0.6	0.09-0.13	3.0-6.0	0.0-0.5	.17	.32			

Table 14.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
58:												
Hosta family--------	0-3	5-15	1.35-1.50	2-6	0.08-0.13	0.0-2.9	1.0-3.0	.24	.24	5	3	86
	3-8	15-28	1.25-1.40	0.6-2	0.13-0.18	0.0-2.9	0.8-1.5	.32	.32			
	8-28	40-55	1.15-1.30	0.00-0.06	0.14-0.16	9.0-10.9	0.5-1.0	.32	.32			
	28-38	40-50	1.15-1.30	0.00-0.06	0.13-0.17	9.0-10.9	0.5-1.0	.37	.37			
	38-60	30-40	1.30-1.50	0.00-0.06	0.17-0.21	3.0-5.9	0.5-1.0	.32	.32			
59:												
House Mountain family----------	0-2	5-18	1.45-1.65	2-6	0.04-0.08	0.0-2.9	0.5-1.0	.10	.24	1	5	56
	2-5	12-18	1.35-1.50	0.6-2	0.07-0.13	0.0-2.9	0.2-0.8	.20	.24			
	5-9	---	---	0.00-0.06	---	---	---	---	---			
	>9	---	---	0.00- 0.00	---	---	---	---	---			
Calvista family-----	0-2	15-27	1.15-1.25	0.6-2	0.09-0.12	0.0-2.9	0.5-1.0	.10	.32	1	6	48
	2-10	18-27	1.35-1.45	2-6	0.05-0.07	0.0-2.9	0.5-1.0	.17	.32			
	>10	---	---	0.00- 0.00	---	---	---	---	---			
Rock outcrop--------	---	---	---	---	---	---	---	---	---	--	---	---
60:												
Huevi---------------	0-2	10-18	1.35-1.50	2-6	0.01-0.06	0.0-2.9	0.2-0.8	.05	.24	5	8	0
	2-12	10-18	1.35-1.50	2-6	0.09-0.18	0.0-2.9	0.2-0.8	.20	.24			
	12-60	10-18	1.35-1.50	2-6	0.02-0.08	0.0-2.9	0.2-0.8	.05	.24			
61:												
Huevi---------------	0-2	7-18	1.35-1.55	2-6	0.05-0.12	0.0-2.9	0.5-1.0	.20	.37	4	7	38
	2-9	5-18	1.45-1.65	2-6	0.04-0.08	0.0-2.9	0.5-1.0	.10	.24			
	9-27	5-18	1.45-1.65	2-6	0.04-0.08	0.0-2.9	0.5-1.0	.10	.24			
	27-40	5-18	1.45-1.65	2-6	0.03-0.05	0.0-2.9	0.5-1.0	.05	.24			
	40-60	0-15	1.55-1.65	6-20	0.02-0.05	0.0-2.9	0.5-1.0	.05	.17			
62:												
Huevi---------------	0-2	5-18	1.35-1.50	2-6	0.04-0.08	0.0-3.0	0.0-1.0	.10	.24	5	5	56
	2-20	5-18	1.35-1.50	2-6	0.03-0.05	0.0-3.0	0.0-1.0	.05	.24			
	20-49	8-18	1.35-1.50	2-6	0.03-0.05	0.0-3.0	0.0-1.0	.05	.24			
	49-60	2-10	1.45-1.55	6-20	0.01-0.03	0.0-3.0	0.0-1.0	.02	.17			

Table 14.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
63:												
Huevi	0-2	10-18	1.10-1.15	2-6	0.04-0.07	0.0-2.9	0.2-0.8	.05	.28	5	8	0
	2-9	5-18	1.35-1.50	2-6	0.04-0.08	0.0-3.0	0.2-0.8	.10	.24			
	9-28	8-18	1.35-1.50	2-6	0.04-0.08	0.0-3.0	0.2-0.8	.10	.24			
	28-40	8-15	1.35-1.50	2-6	0.01-0.06	0.0-2.9	0.2-0.8	.05	.28			
	40-60	5-15	1.45-1.65	6-20	0.02-0.04	0.0-2.9	0.2-0.8	.05	.17			
Carrizo	0-1	10-18	1.35-1.50	6-20	0.02-0.08	0.0-2.9	0.0-0.5	.05	.24	5	8	0
	1-10	2-10	1.45-1.55	7-20	0.01-0.03	0.0-3.0	0.0-0.5	.02	.17			
	10-60	2-10	1.45-1.55	7-20	0.01-0.03	0.0-3.0	0.0-0.5	.02	.17			
64:												
Huevi	0-3	5-12	1.35-1.50	2-6	0.02-0.08	0.0-2.9	0.2-0.8	.05	.24	5	8	0
	3-7	5-13	1.35-1.50	2-6	0.02-0.08	0.0-2.9	0.2-0.8	.05	.24			
	7-36	8-13	1.35-1.50	2-6	0.02-0.08	0.0-2.9	0.2-0.8	.05	.24			
	36-52	8-13	1.35-1.50	2-6	0.02-0.08	0.0-2.9	0.2-0.8	.05	.24			
	52-60	5-15	1.35-1.50	2-6	0.01-0.06	0.0-2.9	0.2-0.8	.05	.28			
Carrwash	0-60	0-5	1.45-1.55	20-46	0.01-0.03	0.0-3.0	0.0-0.5	.02	.10	5	8	0
65:												
Huevi	0-2	5-15	1.35-1.50	2-6	0.01-0.06	0.0-2.9	0.2-0.8	.05	.24	5	8	0
	2-40	10-18	1.25-1.40	2-6	0.07-0.13	0.0-2.9	0.2-0.8	.05	.32			
	40-60	5-15	1.35-1.50	2-6	0.01-0.06	0.0-2.9	0.2-0.8	.05	.24			
Sunrock	0-1	5-20	1.25-1.35	2-6	0.04-0.08	0.0-3.0	0.0-1.0	.10	.24	1	8	0
	1-10	5-20	1.35-1.50	2-6	0.04-0.08	0.0-2.9	0.0-1.0	.10	.24			
	>10	---	---	0.00- 0.00	---	---	---	---	---			
Rock outcrop	---	---	---	---	---	---	---	---	---	--	8	0
66:												
Hulda	0-3	5-18	1.35-1.50	2-6	0.03-0.05	0.0-3.0	0.0-1.0	.05	.24	1	8	0
	3-8	5-18	1.35-1.50	2-6	0.04-0.08	0.0-3.0	0.0-1.0	.10	.24			
	>8	---	---	0.00- 0.00	---	---	---	---	---			
67:												
Hulda	0-1	5-18	1.45-1.65	2-6	0.03-0.05	0.0-2.9	1.0-2.0	.05	.24	1	8	0
	1-6	5-18	1.35-1.50	2-6	0.04-0.08	0.0-3.0	0.0-1.0	.10	.24			
	>6	---	---	0.00- 0.00	---	---	---	---	---			

Table 14.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
67:												
Rock outcrop--------	---	---	---	---	---	---	---	---	---	--	8	0
68:												
Hulda----------	0-2	8-18	1.60-1.70	2-6	0.06-0.08	0.0-2.9	1.0-2.0	.05	.32	1	8	0
	2-5	8-18	1.60-1.70	2-6	0.06-0.08	0.0-2.9	1.0-2.0	.05	.32			
	>5	---	---	0.00- 0.00	---	---	---	---	---			
Rock outcrop--------	---	---	---	---	---	---	---	---	---	--	8	0
69:												
Ireteba family------	0-2	5-18	1.45-1.65	2-6	0.07-0.11	0.0-2.9	0.5-1.0	.10	.24	5	4	86
	2-10	5-18	1.45-1.65	2-6	0.09-0.13	0.0-2.9	0.5-1.0	.17	.24			
	10-19	5-18	1.45-1.65	2-6	0.07-0.11	0.0-2.9	0.5-1.0	.10	.24			
	19-31	5-18	1.45-1.65	2-6	0.07-0.11	0.0-2.9	0.5-1.0	.10	.24			
	31-41	5-18	1.45-1.65	2-6	0.07-0.11	0.0-2.9	0.5-1.0	.10	.24			
	41-60	2-10	1.55-1.65	6-20	0.02-0.05	0.0-2.9	0.5-1.0	.02	.17			
Arizo----------	0-2	5-18	1.35-1.55	2-6	0.05-0.11	0.0-2.9	0.5-1.0	.10	.17	5	4	86
	2-11	5-18	1.35-1.55	2-6	0.05-0.11	0.0-2.9	0.5-1.0	.10	.17			
	11-15	5-18	1.35-1.55	2-6	0.06-0.13	0.0-2.9	0.5-1.0	.15	.17			
	15-35	0-15	1.45-1.65	6-20	0.01-0.03	0.0-2.9	0.5-1.0	.02	.10			
	35-60	0-15	1.55-1.65	6-20	0.02-0.04	0.0-2.9	0.5-1.0	.02	.10			
70:												
Jagerson----------	0-2	20-27	1.25-1.40	0.6-2	0.09-0.15	0.0-2.9	0.5-1.0	.10	.32	5	6	48
	2-9	20-27	1.25-1.40	0.6-2	0.09-0.15	0.0-2.9	0.5-1.0	.10	.32			
	9-18	30-35	1.25-1.55	0.2-0.6	0.14-0.21	3.0-5.9	0.2-0.8	.24	.28			
	18-42	5-18	1.35-1.50	2-6	0.04-0.08	0.0-3.0	0.2-0.8	.10	.24			
	42-60	0-15	1.60-1.65	6-20	0.01-0.03	0.0-3.0	0.5-1.0	.05	.15			
71:												
Jagerson----------	0-2	20-25	1.55-1.65	0.2-0.6	0.09-0.14	0.0-3.0	0.5-1.0	.15	.32	5	6	48
	2-9	27-35	1.55-1.65	0.2-0.6	0.09-0.14	0.0-3.0	0.5-1.0	.15	.32			
	9-18	27-35	1.25-1.55	0.2-0.6	0.16-0.21	3.0-6.0	0.5-1.0	.24	.32			
	18-42	5-20	1.45-1.65	2-6	0.04-0.08	0.0-3.0	0.5-1.0	.10	.24			
	42-60	0-15	1.60-1.65	6-20	0.01-0.03	0.0-3.0	0.5-1.0	.05	.15			
Nealy----------	0-2	20-24	1.25-1.40	0.6-2	0.09-0.15	0.0-2.9	0.5-1.0	.10	.32	2	6	48
	2-14	5-20	1.35-1.50	2-6	0.07-0.09	0.0-3.0	0.5-1.0	.15	.24			
	14-33	20-35	1.25-1.50	0.6-2	0.11-0.12	0.0-3.0	0.0-0.5	.15	.32			
	33-48	---	---	0.00-0.06	---	---	---	---	---			
	48-60	0-10	1.45-1.55	20-46	0.01-0.03	0.0-3.0	0.0-0.5	.02	.10			

Table 14.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
72:												
Kingtut----------	0-2	5-20	1.25-1.35	2-6	0.07-0.08	0.0-3.0	1.0-2.0	.10	.24	1	5	56
	2-4	20-35	1.25-1.50	0.2-0.6	0.09-0.10	0.0-3.0	1.0-2.0	.15	.32			
	4-17	35-55	1.25-1.50	0.06-0.2	0.09-0.10	3.0-6.0	1.0-2.0	.10	.20			
	17-33	---	---	0.00-0.06	---	---	---	---	---			
	>33	---	---	0.00- 0.00	---	---	---	---	---			
Promontory----------	0-2	5-20	1.35-1.50	2-6	0.09-0.10	0.0-3.0	1.0-2.0	.15	.24	1	4	86
	2-12	20-35	1.25-1.50	0.2-0.6	0.12-0.14	0.0-3.0	1.0-2.0	.15	.32			
	12-17	20-35	1.25-1.50	0.2-0.6	0.12-0.14	0.0-3.0	1.0-2.0	.15	.32			
	17-19	---	---	0.00-0.06	---	---	---	---	---			
	>19	---	---	0.00- 0.00	---	---	---	---	---			
73:												
Kinley----------	0-2	0-15	1.55-1.65	6-20	0.06-0.08	0.0-2.9	0.5-1.0	.10	.17	5	3	86
	2-9	5-18	1.45-1.65	2-6	0.08-0.13	0.0-2.9	0.5-1.0	.20	.24			
	9-13	5-18	1.45-1.65	2-6	0.08-0.13	0.0-2.9	0.5-1.0	.20	.24			
	13-24	5-18	1.45-1.65	2-6	0.08-0.13	0.0-2.9	0.5-1.0	.20	.24			
	24-34	5-18	1.45-1.65	2-6	0.08-0.13	0.0-2.9	0.5-1.0	.15	.24			
	34-50	5-18	1.45-1.65	2-6	0.08-0.13	0.0-2.9	0.5-1.0	.10	.24			
	50-60	5-18	1.45-1.65	2-6	0.08-0.13	0.0-2.9	0.5-1.0	.10	.24			
74:												
Kurstan family------	0-2	8-18	1.35-1.50	2-6	0.08-0.13	0.0-2.9	0.5-1.0	.24	.24	5	3	86
	2-19	8-18	1.35-1.50	2-6	0.08-0.13	0.0-2.9	0.5-1.0	.24	.24			
	19-45	8-18	1.35-1.50	2-6	0.08-0.13	0.0-2.9	0.2-0.8	.24	.24			
	45-60	8-18	1.35-1.50	2-6	0.08-0.13	0.0-2.9	0.2-0.8	.24	.24			
Dusty----------	0-2	5-18	1.45-1.65	2-6	0.11-0.13	0.0-3.0	0.5-1.0	.20	.24	5	3	86
	2-6	7-20	1.35-1.55	0.6-2	0.16-0.18	0.0-3.0	0.5-1.0	.32	.37			
	6-10	18-27	1.35-1.55	0.6-2	0.16-0.18	0.0-3.0	0.5-1.0	.32	.37			
	10-19	27-35	1.25-1.55	0.00-0.06	0.19-0.21	3.0-6.0	0.2-0.8	.28	.32			
	19-24	20-27	1.55-1.65	0.2-0.6	0.14-0.16	3.0-6.0	0.2-0.8	.28	.32			
	24-31	20-27	1.55-1.65	0.2-0.6	0.14-0.16	3.0-6.0	0.2-0.8	.28	.32			
	31-50	27-35	1.25-1.55	0.2-0.6	0.19-0.21	3.0-6.0	0.2-0.8	.28	.32			
	50-60	5-18	1.45-1.65	2-6	0.11-0.13	0.0-3.0	0.2-0.8	.20	.24			
75:												
Lampshire----------	0-1	7-17	1.35-1.50	2-6	0.07-0.09	0.0-3.0	1.0-3.0	.15	.20	1	4	86
	1-6	5-18	1.45-1.65	2-6	0.04-0.08	0.0-2.9	1.0-3.0	.10	.24			
	6-17	---	---	0.00-0.06	---	---	---	---	---			
	>17	---	---	0.00- 0.00	---	---	---	---	---			

Table 14.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
75:												
Rock outcrop	---	---	---	---	---	---	---	---	---	--	---	---
76:												
Lostman	0-2	10-18	1.35-1.50	2-6	0.07-0.13	0.0-2.9	1.0-2.0	.20	.24	5	4	86
	2-36	10-18	1.35-1.50	2-6	0.07-0.13	0.0-2.9	1.0-2.0	.20	.24			
	36-56	2-10	1.55-1.75	6-20	0.03-0.05	0.0-2.9	0.0-0.5	.02	.05			
	56-60	21-35	1.25-1.40	2-6	0.10-0.13	0.0-2.9	0.0-0.5	.17	.32			
77:												
Lostman	0-2	5-15	1.35-1.50	2-6	0.08-0.13	0.0-2.9	1.0-2.0	.24	.24	5	3	86
	2-42	10-18	1.35-1.50	2-6	0.07-0.13	0.0-2.9	1.0-2.0	.20	.24			
	42-60	21-35	1.25-1.40	2-6	0.10-0.13	0.0-2.9	0.0-0.5	.17	.32			
78:												
Luzena	0-1	18-27	1.25-1.40	0.6-2	0.04-0.06	0.0-2.9	1.0-2.0	.05	.32	1	8	0
	1-2	30-35	1.30-1.45	0.2-0.6	0.04-0.10	3.0-5.9	0.5-1.0	.05	.32			
	2-14	40-55	1.15-1.30	0.06-0.2	0.14-0.16	9.0-10.9	0.5-1.0	.32	.32			
	>14	---	---	0.00- 0.00	---	---	---	---	---			
Thunderbird	0-2	18-20	1.25-1.35	2-6	0.07-0.08	0.0-2.9	1.0-2.0	.10	.28	2	5	56
	2-6	20-27	1.15-1.25	0.6-2	0.14-0.15	3.0-5.9	0.5-1.0	.17	.32			
	6-11	30-45	1.10-1.20	0.2-0.6	0.14-0.18	6.0-8.9	0.5-1.0	.32	.32			
	11-24	40-50	1.05-1.15	0.06-0.2	0.14-0.16	6.0-8.9	0.5-1.0	.15	.32			
	24-34	---	---	0.00-0.01	---	---	---	---	---			
79:												
Lykorly	0-1	20-27	1.25-1.40	0.6-2	0.09-0.13	0.0-2.9	2.0-3.0	.17	.32	5	6	48
	1-2	15-28	1.25-1.40	0.6-2	0.13-0.18	0.0-2.9	0.8-1.5	.32	.32			
	2-4	15-28	1.25-1.40	0.6-2	0.13-0.18	0.0-2.9	0.8-1.5	.32	.32			
	4-11	25-35	1.40-1.50	0.2-0.6	0.15-0.21	3.0-5.9	0.8-1.5	.32	.32			
	11-25	25-35	1.40-1.50	0.2-0.6	0.15-0.21	3.0-5.9	0.5-1.0	.32	.32			
	25-31	18-28	1.25-1.40	0.6-2	0.13-0.18	0.0-2.9	0.5-1.0	.32	.32			
	31-44	18-28	1.25-1.40	0.6-2	0.13-0.18	0.0-2.9	0.5-1.0	.32	.32			
	44-60	25-50	1.40-1.50	0.06-0.2	0.17-0.19	6.0-8.9	0.5-1.0	.32	.37			
80:												
Lykorly	0-8	8-15	1.25-1.40	0.6-2	0.19-0.21	0.0-2.9	2.0-3.0	.43	.43	5	4L	86
	8-60	18-27	1.25-1.40	0.06-0.2	0.19-0.21	0.0-2.9	2.0-3.0	.43	.43			

Table 14.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
81:												
Manikan	0-3	5-18	1.35-1.55	2-6	0.06-0.13	0.0-2.9	0.5-1.0	.15	.17	5	5	56
	3-24	18-27	1.55-1.65	0.2-0.6	0.14-0.16	3.0-6.0	0.5-1.0	.32	.32			
	24-39	18-27	1.55-1.65	0.2-0.6	0.14-0.16	3.0-6.0	0.5-1.0	.32	.32			
	39-60	15-25	1.25-1.40	2-6	0.13-0.18	0.0-2.9	0.5-1.0	.32	.32			
Nuffel	0-6	27-35	1.15-1.30	0.6-2	0.17-0.21	0.0-2.9	1.0-3.0	.37	.37	5	4	86
	6-14	27-35	1.15-1.30	0.6-2	0.17-0.21	0.0-2.9	1.0-3.0	.37	.37			
	14-25	18-27	1.00-1.55	0.6-2	0.19-0.21	3.0-6.0	0.8-1.5	.43	.43			
	25-60	27-35	1.15-1.30	0.6-2	0.17-0.21	0.0-2.9	0.8-1.5	.37	.37			
82:												
Mathis family	0-2	5-20	1.35-1.50	20-46	0.07-0.11	0.0-3.0	1.0-2.0	.15	.32	5	8	0
	2-60	2-10	1.45-1.55	20-46	0.03-0.06	0.0-3.0	1.0-2.0	.05	.10			
Riverwash	---	---	---	---	---	---	---	---	---	5	8	0
83:												
Mayswell	0-2	27-35	1.25-1.55	0.2-0.6	0.12-0.18	3.0-6.0	0.0-1.0	.15	.32	1	5	56
	2-4	27-35	1.25-1.55	0.2-0.6	0.12-0.18	3.0-6.0	0.0-1.0	.15	.32			
	4-9	35-40	1.25-1.55	0.2-0.6	0.07-0.14	3.0-6.0	0.0-1.0	.10	.32			
	9-19	35-45	1.35-1.55	0.06-0.2	0.05-0.10	6.0-9.0	0.0-1.0	.05	.20			
	>19	---	---	0.00- 0.00	---	---	---	---	---			
Rock outcrop	---	---	---	---	---	---	---	---	---	--	8	0
84:												
Meadview	0-2	10-18	1.25-1.50	2-6	0.04-0.10	0.0-2.9	0.5-1.0	.10	.37	5	8	0
	2-9	10-18	1.25-1.50	2-6	0.04-0.10	0.0-2.9	0.5-1.0	.10	.37			
	9-21	10-18	1.25-1.50	2-6	0.04-0.10	0.0-2.9	0.2-0.8	.10	.37			
	21-36	1-5	1.35-1.45	20-40	0.01-0.02	0.0-2.9	0.0-0.5	.02	.10			
	36-60	1-5	1.35-1.45	20-40	0.01-0.02	0.0-2.9	0.0-0.5	.02	.10			
85:												
Meadview	0-2	5-18	1.45-1.65	2-6	0.03-0.05	0.0-3.0	0.5-1.0	.10	.24	3	5	56
	2-10	5-18	1.45-1.65	2-6	0.03-0.05	0.0-3.0	0.5-1.0	.10	.24			
	10-21	5-18	1.45-1.65	2-6	0.03-0.05	0.0-3.0	0.5-1.0	.10	.24			
	21-31	1-10	1.35-1.45	20-40	0.01-0.02	0.0-2.9	0.5-1.0	.02	.10			
	31-42	1-10	1.35-1.45	20-40	0.01-0.02	0.0-2.9	0.5-1.0	.02	.10			
	42-52	1-10	1.35-1.45	20-40	0.01-0.02	0.0-2.9	0.5-1.0	.02	.10			
	52-60	1-10	1.35-1.45	20-40	0.01-0.02	0.0-2.9	0.5-1.0	.02	.10			

Table 14.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
85:												
Yurm family---------	0-2	8-18	1.35-1.50	2-6	0.03-0.08	0.0-2.9	0.5-1.0	.15	.24	1	5	56
	2-11	8-18	1.35-1.50	2-6	0.03-0.08	0.0-2.9	0.5-1.0	.15	.24			
	>11	---	---	0.00-0.06	---	---	---	---	---			
86:												
Meriwhitica---------	0-1	5-18	1.45-1.65	0.6-2	0.04-0.08	0.0-2.9	1.0-3.0	.10	.24	1	5	56
	1-6	5-18	1.45-1.65	2-6	0.04-0.08	0.0-2.9	1.0-3.0	.10	.24			
	>6	---	---	0.00- 0.00	---	---	---	---	---			
Rock outcrop--------	---	---	---	---	---	---	---	---	---	--	8	0
87:												
Mextank-------------	0-2	8-18	1.35-1.50	2-6	0.03-0.08	0.0-2.9	1.0-2.0	.15	.24	5	5	56
	2-11	20-22	1.25-1.40	0.6-2	0.05-0.11	0.0-2.9	1.0-2.0	.10	.32			
	11-28	12-18	1.25-1.35	2-6	0.03-0.05	0.0-2.9	0.5-1.0	.05	.24			
	28-46	12-18	1.25-1.35	2-6	0.03-0.05	0.0-2.9	0.5-1.0	.05	.24			
	46-60	12-18	1.25-1.35	2-6	0.03-0.05	0.0-2.9	0.5-1.0	.05	.24			
88:												
Milkweed------------	0-2	18-27	1.15-1.25	0.6-2	0.04-0.05	0.0-2.9	1.0-3.0	.05	.32	1	8	0
	2-11	18-27	1.35-1.50	0.6-2	0.09-0.11	0.0-2.9	1.0-2.0	.10	.32			
	11-28	---	---	0.00-0.06	---	---	---	---	---			
	28-60	---	---	0.00-0.06	---	---	---	---	---			
Quartermaster-------	0-2	12-18	1.25-1.35	2-6	0.03-0.04	0.0-2.9	1.0-3.0	.05	.24	2	8	0
	2-19	18-27	1.15-1.25	0.6-2	0.14-0.16	3.0-5.9	1.0-2.0	.32	.32			
	19-26	18-27	1.30-1.40	0.6-2	0.12-0.15	3.0-5.9	0.5-1.0	.17	.32			
	26-36	---	---	0.00-0.06	---	---	---	---	---			
Buckndoe------------	0-2	15-20	1.25-1.35	2-6	0.05-0.07	0.0-2.9	1.0-3.0	.10	.24	3	5	56
	2-16	15-25	1.20-1.30	2-6	0.08-0.12	0.0-2.9	1.0-2.0	.15	.24			
	16-26	15-20	1.25-1.35	2-6	0.06-0.09	0.0-2.9	0.5-1.0	.10	.28			
	26-42	15-20	1.40-1.45	2-6	0.06-0.09	0.0-2.9	0.5-1.0	.10	.28			
	42-52	---	---	0.00-0.06	---	---	---	---	---			

Table 14.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
89:												
Milok	0-2	5-18	1.35-1.50	2-6	0.07-0.11	0.0-2.9	1.0-2.0	.15	.24	5	4	86
	2-6	5-18	1.35-1.50	2-6	0.07-0.11	0.0-2.9	0.5-1.0	.15	.24			
	6-25	5-18	1.35-1.50	2-6	0.07-0.11	0.0-2.9	0.5-1.0	.15	.24			
	25-37	5-18	1.25-1.50	2-6	0.10-0.15	0.0-2.9	0.5-1.0	.17	.32			
	37-60	5-18	1.25-1.50	2-6	0.14-0.18	0.0-2.9	0.5-1.0	.32	.32			
Pastern	0-2	10-15	1.50-1.60	2-6	0.07-0.09	0.0-2.9	0.5-1.0	.15	.24	1	4	86
	2-11	15-18	1.40-1.50	0.6-2	0.11-0.13	0.0-2.9	0.0-0.5	.17	.32			
	11-21	---	---	0.00-0.06	---	---	---	---	---			
	21-60	10-15	1.50-1.60	2-6	0.05-0.07	0.0-2.9	0.0-0.5	.05	.24			
90:												
Mutang	0-1	10-18	1.35-1.50	2-6	0.07-0.13	0.0-2.9	0.5-1.0	.20	.24	5	4	86
	1-5	10-25	1.25-1.40	0.6-2	0.13-0.18	0.0-2.9	0.5-1.0	.32	.32			
	5-15	40-55	1.15-1.30	0.06-0.2	0.14-0.16	6.0-9.0	0.5-1.0	.32	.32			
	15-22	---	---	0.00-0.06	---	---	---	---	---			
	>22	---	---	0.00-0.03	---	---	---	---	---			
Dutchflat	0-4	5-18	1.35-1.55	2-6	0.07-0.13	0.0-2.9	0.5-1.0	.15	.17	5	3	86
	4-37	20-27	1.55-1.75	0.6-2	0.12-0.19	3.0-5.9	0.5-1.0	.17	.20			
	37-60	5-18	1.35-1.75	2-6	0.06-0.12	0.0-2.9	0.5-1.0	.15	.15			
91:												
Mutang	0-1	10-18	1.35-1.50	2-6	0.07-0.13	0.0-2.9	0.5-1.0	.20	.24	5	4	86
	1-5	10-25	1.25-1.40	0.6-2	0.13-0.18	0.0-2.9	0.5-1.0	.32	.32			
	5-15	40-55	1.15-1.30	0.06-0.2	0.14-0.16	6.0-9.0	0.5-1.0	.32	.32			
	15-22	---	---	0.00-0.06	---	---	---	---	---			
	>22	---	---	0.00-0.03	---	---	---	---	---			
Wikieup	0-3	7-18	1.25-1.40	2-6	0.02-0.07	0.0-2.9	0.5-1.0	.05	.32	1	8	0
	3-7	7-18	1.35-1.55	2-6	0.05-0.12	0.0-2.9	0.1-0.6	.20	.37			
	7-9	---	---	0.00-0.06	---	---	---	---	---			
	>9	---	---	0.00- 0.00	---	---	---	---	---			
Rock outcrop	---	---	---	---	---	---	---	---	---	--	---	---

Table 14.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
92:												
Nealy	0-2	5-20	1.35-1.50	2-6	0.07-0.09	0.0-3.0	0.5-1.0	.15	.24	2	4	86
	2-5	10-25	1.25-1.40	0.6-2	0.13-0.18	0.0-2.9	0.5-1.0	.32	.32			
	5-17	18-25	1.25-1.40	0.6-2	0.13-0.18	0.0-2.9	0.2-0.8	.32	.32			
	17-23	18-25	1.25-1.40	0.6-2	0.13-0.18	0.0-2.9	0.2-0.8	.32	.32			
	23-60	---	---	0.00-0.06	---	---	---	---	---			
Shamock family	0-3	5-20	1.25-1.35	2-6	0.07-0.11	0.0-3.0	0.0-1.0	.15	.24	2	4	86
	3-23	7-18	1.25-1.50	2-6	0.14-0.18	0.0-3.0	0.0-1.0	.32	.32			
	23-60	---	---	0.00-0.06	---	---	---	---	---			
93:												
Nealy	0-2	5-20	1.35-1.50	2-6	0.07-0.09	0.0-3.0	1.0-2.0	.15	.20	2	4	86
	2-14	5-20	1.35-1.50	2-6	0.07-0.09	0.0-3.0	0.5-1.0	.15	.24			
	14-33	20-35	1.25-1.50	0.6-2	0.11-0.12	0.0-3.0	0.0-0.5	.15	.32			
	33-48	---	---	0.00-0.06	---	---	---	---	---			
	48-60	0-10	1.45-1.55	20-46	0.01-0.03	0.0-3.0	0.0-0.5	.02	.10			
Skelon family	0-2	10-18	1.35-1.50	2-6	0.03-0.09	0.0-2.9	0.5-1.0	.10	.24	2	5	56
	2-10	15-18	1.35-1.50	2-6	0.07-0.13	0.0-2.9	0.5-1.0	.20	.24			
	10-36	10-18	1.35-1.50	2-6	0.03-0.09	0.0-2.9	0.5-1.0	.10	.24			
	36-54	---	---	0.00-0.06	---	---	---	---	---			
	54-60	5-10	1.35-1.45	6-20	0.02-0.08	0.0-2.9	0.1-0.2	.02	.17			
Detrital	0-2	5-20	1.25-1.35	2-6	0.07-0.11	0.0-3.0	0.0-1.0	.15	.24	5	4	86
	2-17	5-20	1.30-1.50	2-6	0.04-0.08	0.0-3.0	0.0-1.0	.10	.24			
	17-34	5-20	1.30-1.50	2-6	0.04-0.08	0.0-3.0	0.0-1.0	.10	.24			
	34-60	5-20	1.30-1.50	2-6	0.04-0.08	0.0-3.0	0.0-1.0	.10	.24			
94:												
Nickel family	0-2	5-18	1.35-1.50	2-6	0.04-0.08	0.0-3.0	0.0-1.0	.10	.24	4	5	56
	2-7	18-20	1.25-1.40	0.2-0.6	0.05-0.11	0.0-2.9	0.0-1.0	.10	.32			
	7-25	8-18	1.30-1.50	2-6	0.03-0.05	0.0-2.9	0.0-1.0	.05	.32			
	25-35	5-18	1.35-1.50	2-6	0.04-0.08	0.0-3.0	0.0-1.0	.10	.24			
	35-60	8-18	1.30-1.50	2-6	0.03-0.05	0.0-2.9	0.0-1.0	.05	.32			
Bluebird	0-2	20-27	1.55-1.65	0.2-0.6	0.07-0.14	3.0-6.0	0.5-1.0	.10	.32	5	7	38
	2-16	20-27	1.55-1.65	0.2-0.6	0.05-0.08	3.0-6.0	0.5-1.0	.10	.32			
	16-42	5-18	1.55-1.75	2-6	0.03-0.05	0.0-3.0	0.5-1.0	.02	.20			
	42-60	20-27	1.55-1.65	0.2-0.6	0.07-0.14	3.0-6.0	0.5-1.0	.10	.32			

Table 14.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
95:												
Nickel	0-2	5-18	1.35-1.50	2-6	0.03-0.05	0.0-3.0	0.0-1.0	.05	.24	5	8	0
	2-5	5-18	1.35-1.50	0.2-0.6	0.07-0.11	0.0-3.0	0.0-1.0	.15	.24			
	5-36	5-18	1.35-1.50	2-6	0.04-0.08	0.0-3.0	0.0-1.0	.10	.24			
	36-60	2-10	1.45-1.55	6-26	0.02-0.05	0.0-3.0	0.0-1.0	.05	.17			
Skelon family	0-2	5-18	1.35-1.50	2-6	0.03-0.04	0.0-3.0	0.5-1.0	.05	.24	2	5	56
	2-15	5-18	1.35-1.50	2-6	0.03-0.04	0.0-3.0	0.5-1.0	.05	.24			
	15-35	5-18	1.35-1.50	2-6	0.02-0.05	0.0-2.9	0.5-1.0	.02	.24			
	35-60	---	---	0.00-0.06	---	---	---	---	---			
Detrital	0-1	5-20	1.30-1.50	2-6	0.04-0.08	0.0-3.0	0.0-1.0	.10	.24	5	5	56
	1-60	5-20	1.30-1.50	2-6	0.04-0.08	0.0-3.0	0.0-1.0	.10	.24			
96:												
Nickel family	0-3	2-10	1.55-1.65	6-20	0.02-0.05	0.0-2.9	0.5-1.0	.02	.17	5	4	86
	3-7	20-27	1.55-1.65	0.2-0.6	0.07-0.14	0.0-2.9	0.5-1.0	.05	.32			
	7-26	7-18	1.35-1.55	0.2-0.6	0.05-0.12	0.0-2.9	0.5-1.0	.05	.37			
	26-60	5-20	1.45-1.65	2-6	0.04-0.08	0.0-2.9	0.5-1.0	.05	.24			
Topawa family	0-3	2-15	1.55-1.65	6-20	0.02-0.05	0.0-2.9	0.5-1.0	.05	.17	5	4	86
	3-18	27-35	1.55-1.65	0.2-0.6	0.05-0.10	3.0-5.9	0.5-1.0	.10	.32			
	18-50	15-20	1.45-1.65	2-6	0.04-0.08	0.0-2.9	0.5-1.0	.10	.24			
	50-58	2-15	1.55-1.65	0.2-0.6	0.04-0.07	0.0-2.9	0.5-1.0	.10	.17			
	58-60	18-27	1.35-1.55	0.6-2	0.10-0.15	0.0-2.9	0.5-1.0	.20	.37			
Eba family	0-1	5-20	1.45-1.65	2-6	0.04-0.08	0.0-2.9	0.5-1.0	.10	.24	5	5	56
	1-8	40-60	1.35-1.55	0.06-0.2	0.05-0.10	3.0-5.9	0.5-1.0	.05	.20			
	8-32	40-60	1.35-1.55	0.06-0.2	0.05-0.10	3.0-5.9	0.5-1.0	.05	.20			
	32-52	35-55	1.45-1.60	0.06-0.2	0.02-0.05	3.0-5.9	0.5-1.0	.10	.32			
	52-60	18-27	1.35-1.55	0.6-2	0.05-0.12	0.0-2.9	0.5-1.0	.15	.37			
97:												
Nodman	0-2	22-24	1.25-1.40	0.2-0.6	0.05-0.11	0.0-2.9	0.2-0.8	.10	.32	1	7	38
	2-15	20-35	1.55-1.65	0.2-0.6	0.05-0.10	3.0-5.9	0.2-0.8	.10	.32			
	15-39	---	---	0.00-0.06	---	---	---	---	---			
	>39	---	---	0.00- 0.00	---	---	---	---	---			
Antares	0-2	5-18	1.35-1.55	2-6	0.02-0.05	0.0-3.0	0.5-1.0	.05	.24	1	8	0
	2-10	5-18	1.35-1.55	2-6	0.03-0.08	0.0-3.0	0.5-1.0	.05	.24			
	10-40	---	---	0.00-0.06	---	---	---	---	---			
	>40	---	---	0.00- 0.00	---	---	---	---	---			

Table 14.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
98:												
Nodman	0-2	7-18	1.35-1.50	2-6	0.07-0.10	0.0-3.0	0.5-1.0	.10	.24	1	4	86
	2-9	18-35	1.25-1.40	0.6-2	0.11-0.16	3.0-6.0	0.0-0.5	.10	.32			
	9-12	18-35	1.25-1.40	0.2-0.6	0.12-0.16	3.0-6.0	0.0-0.5	.10	.32			
	12-60	---	---	0.00-0.06	---	---	---	---	---			
Courtland family	0-1	7-18	1.35-1.50	2-6	0.07-0.11	0.0-3.0	0.5-1.0	.15	.24	2	4	86
	1-14	20-35	1.25-1.50	0.6-2	0.09-0.11	3.0-6.0	0.0-0.5	.24	.32			
	14-19	27-35	1.20-1.35	0.6-2	0.17-0.21	3.0-6.0	0.0-0.5	.24	.32			
	19-29	27-38	1.20-1.35	0.2-0.6	0.17-0.21	3.0-6.0	0.0-0.5	.28	.32			
	>29	---	---	0.00-0.06	---	---	---	---	---			
99:												
Nodman	0-2	5-18	1.35-1.50	2-6	0.05-0.07	0.0-3.0	0.5-1.0	.10	.24	1	4	86
	2-10	18-35	1.25-1.40	0.2-0.6	0.05-0.08	3.0-6.0	0.0-0.5	.10	.32			
	10-17	---	---	0.00-0.06	---	---	---	---	---			
	17-60	---	---	0.00-0.06	---	---	---	---	---			
Rock outcrop	---	---	---	---	---	---	---	---	---	--	8	0
100:												
Nodman	0-1	5-18	1.35-1.50	2-6	0.08-0.11	0.0-3.0	0.5-1.0	.15	.24	1	4	86
	1-6	5-18	1.35-1.50	2-6	0.03-0.05	0.0-3.0	0.0-0.5	.05	.24			
	6-12	18-35	1.25-1.40	0.2-0.6	0.06-0.08	3.0-6.0	0.0-0.5	.10	.32			
	12-60	---	---	0.00-0.06	---	---	---	---	---			
Romero family	0-2	8-18	1.35-1.50	2-6	0.05-0.07	0.0-3.0	0.5-1.0	.05	.24	1	5	56
	2-7	8-18	1.35-1.50	2-6	0.05-0.07	0.0-3.0	0.0-0.5	.05	.24			
	7-21	---	---	0.00-0.06	---	---	---	---	---			
	>21	---	---	0.00- 0.00	---	---	---	---	---			
101:												
Nolam family	0-2	10-20	1.35-1.50	2-6	0.04-0.08	0.0-3.0	0.5-1.0	.10	.24	5	5	56
	2-9	28-35	1.20-1.35	0.6-2	0.06-0.14	3.0-6.0	0.0-0.5	.10	.32			
	9-22	20-30	1.25-1.40	0.6-2	0.05-0.10	3.0-6.0	0.0-0.5	.10	.32			
	22-32	20-30	1.25-1.40	0.6-2	0.05-0.10	3.0-6.0	0.0-0.5	.10	.32			
	32-41	10-15	1.35-1.50	2-6	0.04-0.08	0.0-3.0	0.0-0.5	.10	.20			
	41-60	20-30	1.25-1.40	0.2-0.6	0.04-0.06	3.0-6.0	0.0-0.5	.24	.32			

Table 14.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
101:												
Ustalfic Petrocalcids	0-1	7-18	1.35-1.50	2-6	0.07-0.10	0.0-3.0	0.5-1.0	.15	.24	2	5	56
	1-4	20-35	1.25-1.40	0.6-2	0.09-0.12	3.0-6.0	0.0-0.5	.10	.32			
	4-13	30-35	1.20-1.35	0.2-0.6	0.12-0.16	3.0-6.0	0.0-0.5	.15	.32			
	13-26	20-35	1.25-1.40	0.6-2	0.09-0.12	3.0-6.0	0.0-0.5	.10	.32			
	26-38	18-20	1.35-1.50	2-6	0.05-0.07	0.0-3.0	0.0-0.5	.10	.20			
	38-60	---	---	0.00-0.06	---	---	---	---	---			
Caralampi family	0-2	15-27	1.25-1.40	0.2-0.6	0.12-0.16	3.0-6.0	0.5-1.0	.15	.32	5	6	48
	2-9	27-35	1.20-1.33	0.2-0.6	0.07-0.09	3.0-6.0	0.0-0.5	.15	.32			
	9-30	20-30	1.25-1.40	0.6-2	0.06-0.09	3.0-6.0	0.0-0.5	.10	.32			
	30-50	10-20	1.35-1.50	2-6	0.04-0.08	0.0-3.0	0.0-0.5	.10	.20			
	50-60	3-15	1.45-1.60	2-6	0.02-0.05	0.0-3.0	0.0-0.5	.05	.15			
102:												
Ohaco family	0-3	5-15	1.35-1.50	2-6	0.08-0.13	0.0-2.9	0.5-1.0	.24	.24	2	3	86
	3-6	30-40	1.30-1.50	0.00-0.06	0.17-0.21	3.0-5.9	0.5-1.0	.32	.32			
	6-15	40-55	1.15-1.30	0.00-0.06	0.14-0.16	9.0-10.9	0.2-0.8	.32	.32			
	15-20	28-35	1.35-1.45	0.2-0.6	0.09-0.11	0.0-2.9	0.1-0.5	.10	.32			
	20-35	15-20	1.35-1.50	2-6	0.08-0.10	0.0-2.9	0.1-0.5	.15	.24			
	35-60	---	---	0.00-0.06	---	---	---	---	---			
Bluebird	0-2	20-27	1.55-1.65	0.2-0.6	0.07-0.14	3.0-6.0	0.5-1.0	.10	.32	5	7	38
	2-16	20-27	1.55-1.65	0.2-0.6	0.05-0.08	3.0-6.0	0.5-1.0	.10	.32			
	16-42	5-18	1.55-1.75	2-6	0.03-0.05	0.0-3.0	0.5-1.0	.02	.20			
	42-60	20-27	1.55-1.65	0.2-0.6	0.07-0.14	3.0-6.0	0.5-1.0	.10	.32			
103:												
Orejano	0-2	5-20	1.45-1.65	2-6	0.07-0.09	0.0-2.9	1.0-3.0	.10	.24	3	5	56
	2-7	40-55	1.15-1.30	0.06-0.2	0.10-0.12	9.0-10.9	1.0-3.0	.28	.32			
	7-12	35-55	1.45-1.60	0.06-0.2	0.02-0.05	3.0-5.9	1.0-3.0	.10	.32			
	12-18	20-28	1.25-1.40	0.6-2	0.05-0.11	0.0-2.9	0.5-1.0	.10	.32			
	18-28	8-18	1.35-1.50	2-6	0.03-0.08	0.0-2.9	0.5-1.0	.05	.20			
	28-60	2-10	1.55-1.75	6-20	0.03-0.05	0.0-2.9	0.2-0.8	.02	.05			
104:												
Pantak family	0-2	10-25	1.15-1.30	0.6-2	0.08-0.13	0.0-3.0	0.5-1.0	.10	.43	1	8	0
	2-12	20-35	1.15-1.30	0.2-0.6	0.08-0.13	3.0-6.0	0.0-0.5	.10	.43			
	>12	---	---	0.00- 0.00	---	---	---	---	---			

Table 14.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
104:												
Taine	0-2	20-35	1.25-1.40	0.6-2	0.03-0.05	3.0-6.0	0.5-1.0	.05	.32	1	8	0
	2-7	35-40	1.20-1.35	0.2-0.6	0.11-0.13	6.0-9.0	0.0-0.5	.10	.32			
	7-19	35-50	1.20-1.35	0.2-0.6	0.04-0.06	6.0-9.0	0.0-0.5	.05	.32			
	>19	---	---	0.00- 0.00	---	---	---	---	---			
Terino family	0-2	18-27	1.25-1.40	0.6-2	0.07-0.11	3.0-6.0	0.5-1.0	.10	.32	2	8	0
	2-10	20-27	1.25-1.40	0.6-2	0.07-0.11	3.0-6.0	0.0-0.5	.10	.32			
	10-17	30-35	1.20-1.35	0.2-0.6	0.08-0.12	3.0-6.0	0.0-0.5	.10	.32			
	17-23	---	---	0.00-0.06	---	---	---	---	---			
	23-35	---	---	0.00-0.06	---	---	---	---	---			
	>35	---	---	0.00- 0.00	---	---	---	---	---			
105:												
Pastern	0-2	10-15	1.50-1.60	2-6	0.07-0.09	0.0-2.9	0.5-1.0	.15	.24	1	4	86
	2-11	15-18	1.40-1.50	0.6-2	0.11-0.13	0.0-2.9	0.0-0.5	.17	.32			
	11-21	---	---	0.00-0.06	---	---	---	---	---			
	21-60	10-15	1.50-1.60	2-6	0.05-0.07	0.0-2.9	0.0-0.5	.05	.24			
Strych	0-2	5-20	1.25-1.35	2-6	0.04-0.08	0.0-3.0	1.0-2.0	.05	.24	5	5	56
	2-7	7-20	1.25-1.50	2-6	0.04-0.07	0.0-3.0	1.0-2.0	.05	.32			
	7-27	8-18	1.35-1.50	2-6	0.04-0.08	0.0-3.0	0.0-1.0	.05	.24			
	27-60	8-18	1.35-1.50	2-6	0.03-0.05	0.0-3.0	0.0-1.0	.05	.24			
106:												
Peachsprings	0-3	10-15	1.35-1.50	2-6	0.03-0.04	0.0-2.9	1.0-2.0	.02	.20	5	8	0
	3-8	10-20	1.35-1.50	2-6	0.07-0.11	0.0-2.9	0.5-1.0	.15	.24			
	8-21	20-30	1.25-1.40	0.2-0.6	0.09-0.16	3.0-5.9	0.5-1.0	.15	.32			
	21-32	27-40	1.35-1.65	0.2-0.6	0.12-0.18	3.0-5.9	0.5-1.0	.15	.32			
	32-43	15-20	1.35-1.50	2-6	0.11-0.15	0.0-2.9	0.0-0.5	.28	.28			
	43-64	5-18	1.25-1.35	2-6	0.09-0.13	0.0-3.0	0.0-0.5	.24	.24			
Havasupai	0-2	15-20	1.35-1.50	2-6	0.04-0.06	0.0-2.9	1.0-3.0	.05	.24	1	8	0
	2-7	15-25	1.25-1.50	0.6-2	0.08-0.14	0.0-2.9	0.0-0.5	.10	.28			
	7-15	15-27	1.25-1.50	2-6	0.04-0.10	0.0-2.9	0.0-0.5	.05	.24			
	15-25	---	---	0.00-0.06	---	---	---	---	---			
	25-60	3-10	1.35-1.60	20-40	0.02-0.03	0.0-2.9	0.0-0.5	.02	.10			
107:												
Pearce	0-2	7-18	1.35-1.55	0.6-2	0.04-0.06	0.0-3.0	0.5-1.0	.05	.37	1	8	0
	2-7	7-18	1.35-1.55	0.6-2	0.04-0.06	0.0-3.0	0.5-1.0	.05	.37			
	>7	---	---	0.00- 0.00	---	---	---	---	---			

Table 14.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
108:												
Pearce	0-2	10-15	1.25-1.40	0.6-2	0.02-0.07	0.0-2.9	0.2-0.8	.05	.32	1	8	0
	2-13	10-18	1.35-1.50	2-6	0.02-0.08	0.0-2.9	0.2-0.8	.05	.24			
	>13	---	---	0.00- 0.00	---	---	---	---	---			
Detrital	0-2	8-12	1.25-1.40	2-6	0.01-0.06	0.0-2.9	0.5-1.0	.05	.32	5	8	0
	2-13	20-27	1.25-1.40	2-6	0.07-0.11	0.0-2.9	0.5-1.0	.15	.32			
	13-24	10-15	1.25-1.40	2-6	0.04-0.09	0.0-2.9	0.5-1.0	.10	.32			
	24-35	20-30	1.25-1.40	2-6	0.04-0.07	0.0-2.9	0.5-1.0	.05	.32			
	35-60	20-35	1.30-1.45	2-6	0.04-0.10	3.0-5.9	0.5-1.0	.05	.32			
Rock outcrop	---	---	---	---	---	---	---	---	---	--	8	0
109:												
Pearce	0-2	7-18	1.25-1.40	0.6-2	0.08-0.09	0.0-2.9	0.2-0.8	.10	.32	1	6	48
	2-5	7-18	1.25-1.40	0.6-2	0.08-0.09	0.0-2.9	0.2-0.8	.10	.32			
	>5	---	---	0.00- 0.00	---	---	---	---	---			
Rock outcrop	---	---	---	---	---	---	---	---	---	--	8	0
110:												
Pedregosa family	0-2	14-20	1.35-1.50	0.6-2	0.04-0.07	0.0-3.0	0.5-1.0	.10	.24	1	5	56
	2-6	14-20	1.35-1.50	0.6-2	0.04-0.07	0.0-3.0	0.0-0.5	.10	.24			
	6-13	14-20	1.35-1.50	0.6-2	0.04-0.07	0.0-3.0	0.0-0.5	.10	.24			
	>13	---	---	0.00-0.06	---	---	---	---	---			
Tombstone family	0-3	5-18	1.35-1.50	2-6	0.07-0.10	0.0-3.0	0.5-1.0	.15	.24	4	4	86
	3-19	10-18	1.35-1.50	2-6	0.06-0.08	0.0-3.0	0.0-5.0	.10	.24			
	19-34	10-18	1.35-1.50	0.6-2	0.06-0.08	0.0-3.0	0.0-5.0	.10	.24			
	34-44	10-18	1.35-1.50	0.6-2	0.06-0.08	0.0-3.0	0.0-5.0	.10	.24			
	44-50	10-18	1.35-1.50	0.6-2	0.10-0.12	0.0-3.0	0.0-5.0	.20	.24			
	50-60	---	---	0.00-0.06	---	---	---	---	---			
111:												
Pidineen family	0-2	10-18	1.35-1.50	2-6	0.07-0.13	0.0-2.9	1.0-3.0	.20	.24	1	4	86
	2-5	10-18	1.35-1.50	2-6	0.07-0.13	0.0-2.9	1.0-3.0	.20	.24			
	5-14	10-18	1.25-1.40	0.2-0.6	0.05-0.11	0.0-2.9	1.0-3.0	.10	.32			
	14-19	10-18	1.35-1.50	2-6	0.07-0.13	0.0-2.9	1.0-2.0	.20	.24			
	>19	---	---	0.00-0.06	---	---	---	---	---			

Table 14.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
111:												
Tricon family-------	0-2	15-28	1.25-1.40	0.6-2	0.13-0.18	0.0-2.9	1.0-3.0	.32	.32	2	5	56
	2-8	25-50	1.40-1.50	0.06-0.2	0.17-0.19	6.0-8.9	1.0-3.0	.32	.37			
	8-16	25-50	1.40-1.50	0.06-0.2	0.17-0.19	6.0-8.9	1.0-3.0	.32	.37			
	16-21	25-50	1.40-1.50	0.06-0.2	0.17-0.19	6.0-8.9	1.0-3.0	.32	.37			
	>21	---	---	0.00-0.06	---	---	---	---	---			
112:												
Pits-dumps, mine----	---	---	---	---	---	---	---	---	---	--	---	---
113:												
Playa---------------	---	---	---	---	---	---	---	---	---	5	4L	86
114:												
Prieta--------------	0-2	15-27	1.25-1.40	0.6-2	0.04-0.06	0.0-2.9	0.5-1.0	.05	.32	1	8	0
	2-4	28-40	1.20-1.30	0.2-0.6	0.15-0.17	3.0-5.9	0.2-0.8	.10	.32			
	4-12	35-45	1.35-1.55	0.06-0.2	0.05-0.10	6.0-9.0	0.2-0.8	.05	.20			
	12-14	---	---	0.00-0.06	---	---	---	---	---			
	>14	---	---	0.00- 0.00	---	---	---	---	---			
Rock outcrop--------	---	---	---	---	---	---	---	---	---	--	8	0
115:												
Quagwa--------------	0-2	15-20	1.15-1.40	0.6-2	0.15-0.20	0.0-2.9	1.0-3.0	.43	.43	5	4L	86
	2-5	15-20	1.15-1.40	0.6-2	0.15-0.20	0.0-2.9	1.0-2.0	.43	.43			
	5-14	15-20	1.15-1.40	0.6-2	0.15-0.20	0.0-2.9	1.0-2.0	.43	.43			
	14-30	20-30	1.15-1.40	0.6-2	0.15-0.20	0.0-2.9	0.5-1.0	.43	.43			
	30-50	25-35	1.25-1.40	0.6-2	0.15-0.18	3.0-5.9	0.5-1.0	.32	.32			
	50-62	20-27	1.15-1.40	0.6-2	0.15-0.20	0.0-2.9	0.5-1.0	.32	.32			
116:												
Razorback-----------	0-2	5-18	1.45-1.65	2-6	0.03-0.05	0.0-2.9	0.5-1.0	.05	.24	1	8	0
	2-5	5-18	1.45-1.65	0.6-2	0.04-0.08	0.0-2.9	1.0-3.0	.10	.24			
	>5	---	---	0.00- 0.00	---	---	---	---	---			
117:												
Razorback-----------	0-2	7-18	1.35-1.55	0.6-2	0.04-0.07	0.0-2.9	0.5-1.0	.15	.37	1	5	56
	2-15	7-18	1.35-1.55	0.6-2	0.04-0.07	0.0-2.9	0.5-1.0	.05	.37			
	15-25	---	---	0.00- 0.00	---	---	---	---	---			

Table 14.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
117:												
Rock outcrop--------	---	---	---	---	---	---	---	---	---	--	---	---
118:												
Razorback----------	0-2	7-18	1.25-1.40	0.6-2	0.02-0.07	0.0-2.9	0.5-1.0	.05	.32	1	8	0
	2-5	7-27	1.35-1.55	0.6-2	0.04-0.08	0.0-2.9	0.5-1.0	.15	.37			
	>5	---	---	0.00- 0.00	---	---	---	---	---			
Rock outcrop--------	---	---	---	---	---	---	---	---	---	--	8	0
119:												
Rift----------------	0-3	18-27	1.00-1.55	0.6-2	0.19-0.21	3.0-6.0	0.5-1.0	.43	.43	5	4	86
	3-29	18-27	1.00-1.55	0.6-2	0.19-0.21	3.0-6.0	0.5-1.0	.43	.43			
	29-51	27-35	1.25-1.55	0.2-0.6	0.19-0.21	3.0-6.0	0.5-1.0	.37	.37			
	51-60	25-35	1.40-1.50	0.06-0.2	0.15-0.21	3.0-5.9	0.5-1.0	.43	.43			
120:												
Rift----------------	0-4	27-35	1.25-1.55	0.06-0.2	0.19-0.21	3.0-6.0	0.5-1.0	.37	.37	5	4	86
	4-16	27-35	1.25-1.55	0.06-0.2	0.19-0.21	3.0-6.0	0.5-1.0	.37	.37			
	16-23	27-35	1.25-1.55	0.06-0.2	0.19-0.21	3.0-6.0	0.5-1.0	.37	.37			
	23-44	18-27	1.00-1.55	0.6-2	0.19-0.21	3.0-6.0	0.5-1.0	.43	.43			
	44-60	18-27	1.55-1.65	0.2-0.6	0.14-0.16	3.0-6.0	0.5-1.0	.32	.32			
121:												
Rillino family------	0-2	5-15	1.35-1.50	2-6	0.08-0.13	0.0-2.9	0.5-1.0	.24	.24	5	3	86
	2-11	5-15	1.35-1.50	2-6	0.08-0.13	0.0-2.9	0.5-1.0	.24	.24			
	11-16	5-18	1.35-1.55	2-6	0.05-0.11	0.0-2.9	0.5-1.0	.10	.17			
	16-39	5-18	1.35-1.55	2-6	0.05-0.11	0.0-2.9	0.5-1.0	.10	.17			
	39-49	5-18	1.35-1.55	2-6	0.05-0.11	0.0-2.9	0.5-1.0	.10	.17			
	49-60	10-15	1.35-1.50	2-6	0.02-0.05	0.0-2.9	0.5-1.0	.02	.24			
Shamock family------	0-2	5-20	1.25-1.35	2-6	0.07-0.11	0.0-3.0	0.0-1.0	.15	.24	2	4	86
	2-22	7-18	1.25-1.50	2-6	0.14-0.18	0.0-3.0	0.0-1.0	.32	.32			
	22-60	---	---	0.00-0.06	---	---	---	---	---			
Dutchflat-----------	0-2	5-18	1.35-1.55	2-6	0.07-0.13	0.0-2.9	0.5-1.0	.15	.17	5	3	86
	2-4	5-18	1.35-1.55	2-6	0.07-0.13	0.0-2.9	0.5-1.0	.15	.17			
	4-37	20-27	1.55-1.75	0.6-2	0.12-0.19	3.0-5.9	0.5-1.0	.17	.20			
	37-60	5-18	1.35-1.75	2-6	0.06-0.12	0.0-2.9	0.5-1.0	.15	.15			

Table 14.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
122:												
Rock outcrop--------	---	---	---	---	---	---	---	---	---	--	8	0
Appleseed----------	0-2	10-18	1.35-1.50	2-6	0.03-0.05	0.0-3.0	0.5-1.0	.05	.24	1	8	0
	2-8	10-18	1.35-1.50	2-6	0.03-0.05	0.0-3.0	0.5-1.0	.05	.24			
	>8	---	---	0.00- 0.00	---	---	---	---	---			
123:												
Rock outcrop--------	---	---	---	---	---	---	---	---	---	--	8	0
Pearce--------------	0-1	7-18	1.25-1.50	0.6-2	0.04-0.11	0.0-2.9	0.2-0.8	.10	.32	1	5	56
	1-7	7-18	1.25-1.50	0.6-2	0.04-0.11	0.0-2.9	0.2-0.8	.10	.32			
	>7	---	---	0.00- 0.00	---	---	---	---	---			
124:												
Rock outcrop--------	---	---	---	---	---	---	---	---	---	--	---	---
Razorback----------	0-2	5-18	1.45-1.65	2-6	0.03-0.05	0.0-2.9	0.5-1.0	.05	.24	1	8	0
	2-15	7-18	1.35-1.55	0.6-2	0.04-0.07	0.0-2.9	0.5-1.0	.05	.37			
	15-25	---	---	0.00- 0.00	---	---	---	---	---			
125:												
Rock outcrop--------	---	---	---	---	---	---	---	---	---	--	8	0
Torriorthents-------	---	---	---	---	---	---	---	---	---	1	8	0
126:												
Rock outcrop--------	---	---	---	---	---	---	---	---	---	--	8	0
Torriorthents-------	---	---	---	---	---	---	---	---	---	1	8	0
127:												
Rock outcrop--------	---	---	---	---	---	---	---	---	---	--	8	0
Valena--------------	0-2	5-18	1.25-1.35	2-6	0.09-0.13	0.0-3.0	1.0-2.0	.24	.24	1	4	86
	2-7	15-18	1.35-1.50	2-6	0.09-0.13	0.0-3.0	1.0-2.0	.24	.24			
	7-12	20-35	1.25-1.50	0.6-2	0.16-0.21	0.0-3.0	0.0-1.0	.32	.32			
	>12	---	---	0.00- 0.00	---	---	---	---	---			

Table 14.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
127:												
Kopie family--------	0-2	8-15	1.35-1.50	2-6	0.07-0.11	0.0-2.9	1.0-2.0	.15	.24	1	4	86
	2-16	10-18	1.35-1.50	2-6	0.07-0.11	0.0-2.9	0.8-1.5	.15	.24			
	>16	---	---	0.00- 0.00	---	---	---	---	---			
128:												
Rolie----------	0-1	15-27	1.15-1.25	0.6-2	0.09-0.12	0.0-2.9	1.0-2.0	.10	.32	1	6	48
	1-4	18-27	1.15-1.25	0.6-2	0.12-0.15	0.0-2.9	0.5-1.0	.17	.32			
	4-9	18-27	1.15-1.25	0.6-2	0.11-0.14	0.0-2.9	0.5-1.0	.17	.32			
	9-15	---	---	0.00-0.6	---	---	---	---	---			
	15-60	---	---	0.00-0.06	---	---	---	---	---			
Dean----------	0-2	10-20	1.25-1.40	0.6-2	0.04-0.07	0.0-2.9	1.0-2.0	.05	.32	5	8	0
	2-6	15-30	1.25-1.40	0.6-2	0.10-0.15	0.0-2.9	0.0-0.5	.17	.32			
	6-16	15-30	1.25-1.40	0.6-2	0.10-0.15	0.0-2.9	0.0-0.5	.17	.32			
	16-21	15-30	1.25-1.40	0.6-2	0.05-0.10	3.0-5.9	0.0-0.5	.10	.32			
	21-28	15-30	1.25-1.40	0.6-2	0.10-0.15	0.0-2.9	0.0-0.5	.17	.32			
	28-60	15-30	1.25-1.40	0.6-2	0.10-0.15	0.0-2.9	0.0-0.5	.17	.32			
129:												
Romero----------	0-1	5-20	1.45-1.65	2-6	0.03-0.05	0.0-2.9	1.0-2.0	.05	.24	1	8	0
	1-6	20-35	1.55-1.65	2-6	0.05-0.10	3.0-5.9	1.0-2.0	.10	.32			
	6-60	---	---	0.00-0.06	---	---	---	---	---			
Chiricahua----------	0-1	5-20	1.35-1.55	2-6	0.02-0.08	0.0-2.9	1.0-3.0	.02	.10	1	5	56
	1-6	40-60	1.55-1.65	0.06-0.2	0.09-0.16	6.0-8.9	0.5-1.0	.10	.10			
	6-14	40-60	1.55-1.65	0.06-0.2	0.09-0.16	6.0-8.9	0.5-1.0	.10	.10			
	14-16	40-60	1.55-1.65	0.06-0.2	0.07-0.14	6.0-8.9	0.5-1.0	.05	.10			
	16-22	---	---	0.00-0.06	---	---	---	---	---			
	>22	---	---	0.00- 0.00	---	---	---	---	---			
Rock outcrop--------	---	---	---	---	---	---	---	---	---	--	---	---
130:												
Romero----------	0-1	5-20	1.45-1.65	2-6	0.03-0.05	0.0-2.9	1.0-2.0	.05	.24	1	8	0
	1-6	20-35	1.55-1.65	2-6	0.05-0.10	3.0-5.9	1.0-2.0	.10	.32			
	6-60	---	---	0.00-0.06	---	---	---	---	---			
Lampshire----------	0-1	7-17	1.35-1.50	2-6	0.07-0.09	0.0-3.0	1.0-3.0	.15	.20	1	4	86
	1-6	5-18	1.45-1.65	2-6	0.04-0.08	0.0-2.9	1.0-3.0	.10	.24			
	6-17	---	---	0.00-0.06	---	---	---	---	---			
	>17	---	---	0.00- 0.00	---	---	---	---	---			

Table 14.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
130:												
Rock outcrop	---	---	---	---	---	---	---	---	---	--	8	0
131:												
Rositas	0-60	2-5	1.45-1.60	6-20	0.05-0.08	0.0-2.9	0.0-0.5	.17	.17	5	1	220
132:												
Shortbread	0-1	2-10	1.55-1.65	6-20	0.07-0.08	0.0-3.0	0.5-1.0	.15	.17	5	2	134
	1-28	2-10	1.55-1.65	6-20	0.07-0.08	0.0-3.0	0.5-1.0	.15	.17			
	28-38	8-12	1.35-1.50	6-20	0.08-0.13	0.0-2.9	0.5-1.0	.24	.24			
	38-60	2-10	1.55-1.65	6-20	0.07-0.08	0.0-3.0	0.5-1.0	.15	.17			
133:												
Shortbread	0-1	2-10	1.55-1.65	6-20	0.07-0.08	0.0-3.0	0.5-1.0	.15	.17	5	2	134
	1-21	2-10	1.55-1.65	6-20	0.07-0.08	0.0-3.0	0.5-1.0	.15	.17			
	21-30	8-12	1.35-1.50	6-20	0.08-0.13	0.0-2.9	0.5-1.0	.24	.24			
	30-60	2-10	1.55-1.65	6-20	0.07-0.08	0.0-3.0	0.5-1.0	.15	.17			
Kurstan family	0-2	8-12	1.35-1.50	2-6	0.08-0.13	0.0-2.9	0.5-1.0	.24	.24	5	3	86
	2-15	8-12	1.35-1.50	2-6	0.08-0.13	0.0-2.9	0.5-1.0	.24	.24			
	15-29	8-18	1.35-1.50	2-6	0.08-0.13	0.0-2.9	0.2-0.8	.24	.24			
	29-42	8-18	1.35-1.50	2-6	0.08-0.13	0.0-2.9	0.2-0.8	.24	.24			
	42-60	30-35	1.25-1.40	2-6	0.17-0.21	6.0-8.9	0.2-0.8	.32	.32			
Dusty	0-3	27-35	1.15-1.30	0.2-0.6	0.17-0.21	0.0-2.9	0.5-1.0	.37	.37	5	4	86
	3-12	27-35	1.25-1.55	0.00-0.06	0.19-0.21	3.0-6.0	0.5-1.0	.28	.32			
	12-26	27-35	1.25-1.55	0.2-0.6	0.19-0.21	3.0-6.0	0.2-0.8	.28	.32			
	26-56	27-35	1.25-1.55	0.2-0.6	0.19-0.21	3.0-6.0	0.2-0.8	.28	.32			
	56-60	27-35	1.15-1.30	0.2-0.6	0.17-0.21	0.0-2.9	0.2-5.0	.37	.37			
134:												
Skelon family	0-1	5-20	1.35-1.50	2-6	0.09-0.10	0.0-3.0	1.0-2.0	.15	.24	2	4	86
	1-16	5-20	1.35-1.50	2-6	0.07-0.09	0.0-3.0	1.0-2.0	.10	.24			
	16-26	5-18	1.35-1.50	2-6	0.03-0.05	0.0-3.0	0.0-1.0	.05	.24			
	>26	---	---	0.00-0.06	---	---	---	---	---			
Greyeagle family	0-1	5-18	1.35-1.50	2-6	0.05-0.10	0.0-2.9	0.5-1.0	.10	.24	1	5	56
	1-9	5-18	1.35-1.50	2-6	0.05-0.10	0.0-2.9	0.5-1.0	.10	.24			
	>9	---	---	0.00-0.06	---	---	---	---	---			
Detrital	0-2	5-20	1.30-1.50	2-6	0.04-0.08	0.0-3.0	0.0-1.0	.10	.24	5	5	56
	2-60	5-20	1.30-1.50	2-6	0.04-0.08	0.0-3.0	0.0-1.0	.10	.24			

Table 14.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
135:												
Skelon family-------	0-2	5-18	1.35-1.50	2-6	0.03-0.04	0.0-3.0	0.5-1.0	.05	.24	2	5	56
	2-27	5-18	1.35-1.50	2-6	0.03-0.04	0.0-3.0	0.5-1.0	.05	.24			
	27-60	---	---	0.00-0.06	---	---	---	---	---			
Pinaleno family-----	0-2	8-12	1.35-1.50	2-6	0.03-0.08	0.0-2.9	0.2-0.8	.15	.24	5	5	56
	2-8	20-24	1.25-1.40	2-6	0.09-0.15	0.0-2.9	0.2-0.8	.10	.32			
	8-13	20-24	1.25-1.40	2-6	0.09-0.15	0.0-2.9	0.2-0.8	.10	.32			
	13-60	8-12	1.35-1.50	2-6	0.03-0.08	0.0-2.9	0.2-0.8	.15	.24			
136:												
Storybook-----------	0-2	5-18	1.35-1.50	0.6-2	0.05-0.10	0.0-2.9	0.5-1.0	.10	.24	5	5	56
	2-25	5-18	1.35-1.50	0.6-2	0.05-0.10	0.0-2.9	0.2-0.8	.10	.24			
	25-35	5-18	1.25-1.50	2-6	0.08-0.11	0.0-3.0	0.2-0.8	.10	.15			
	35-60	5-18	1.35-1.50	0.6-2	0.05-0.10	0.0-2.9	0.1-0.2	.10	.24			
137:												
Stronghold family---	0-2	5-18	1.35-1.50	2-6	0.09-0.10	0.0-3.0	0.5-1.0	.17	.24	5	4	86
	2-7	10-18	1.35-1.50	2-6	0.10-0.12	0.0-3.0	0.0-0.5	.20	.24			
	7-31	10-18	1.35-1.50	2-6	0.10-0.12	0.0-3.0	0.0-0.5	.20	.24			
	31-44	10-18	1.35-1.50	2-6	0.11-0.13	0.0-3.0	0.0-0.5	.24	.24			
	44-60	10-18	1.35-1.50	2-6	0.13-0.15	0.0-3.0	0.0-0.5	.24	.28			
McAllister family---	0-2	7-18	1.35-1.50	2-6	0.07-0.10	0.0-3.0	0.5-1.0	.10	.24	5	4	86
	2-12	18-35	1.25-1.40	0.2-0.6	0.11-0.12	3.0-6.0	0.0-0.5	.15	.28			
	12-26	18-35	1.25-1.40	0.2-0.6	0.10-0.11	3.0-6.0	0.0-0.5	.15	.28			
	26-37	4-14	1.35-1.50	0.6-2	0.05-0.06	0.0-3.0	0.0-0.5	.05	.20			
	37-53	4-14	1.35-1.50	2-6	0.04-0.05	0.0-3.0	0.0-0.5	.05	.24			
	53-60	4-14	1.45-1.60	2-6	0.04-0.05	0.0-3.0	0.0-0.5	.05	.15			
138:												
Sunrock-------------	0-2	5-20	1.25-1.35	2-6	0.03-0.05	0.0-2.9	0.0-1.0	.05	.24	1	8	0
	2-5	5-20	1.35-1.50	2-6	0.04-0.08	0.0-2.9	0.0-1.0	.10	.24			
	>5	---	---	0.00- 0.00	---	---	---	---	---			
139:												
Sunrock-------------	0-5	5-20	1.25-1.35	2-6	0.03-0.05	0.0-2.9	0.0-1.0	.05	.24	1	8	0
	5-7	5-20	1.35-1.50	2-6	0.04-0.08	0.0-2.9	0.0-1.0	.10	.24			
	>7	---	---	0.00- 0.00	---	---	---	---	---			
Rock outcrop--------	---	---	---	---	---	---	---	---	---	--	8	0

Table 14.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
140:												
Superstition family-	0-1	2-5	1.45-1.65	6-20	0.02-0.04	0.0-2.9	0.5-1.0	.05	.17	5	4	86
	1-7	2-5	1.45-1.65	6-20	0.02-0.04	0.0-2.9	0.5-1.0	.05	.17			
	7-23	12-15	1.35-1.45	2-6	0.03-0.08	0.0-2.9	0.2-0.8	.05	.17			
	23-60	5-10	1.45-1.60	6-20	0.07-0.10	0.0-2.9	0.2-0.8	.17	.17			
Carrwash----------	0-4	2-10	1.45-1.55	7-20	0.01-0.03	0.0-3.0	0.0-0.5	.02	.17	5	8	0
	4-60	0-5	1.45-1.55	20-46	0.01-0.03	0.0-3.0	0.0-0.5	.02	.10			
141:												
Taine----------	0-2	18-28	1.30-1.45	0.2-0.6	0.04-0.10	3.0-5.9	1.0-2.0	.05	.32	1	8	0
	2-5	30-35	1.30-1.45	0.2-0.6	0.04-0.10	3.0-5.9	1.0-2.0	.05	.32			
	5-11	40-45	1.20-1.30	0.06-0.2	0.09-0.12	3.0-5.9	1.0-2.0	.05	.32			
	11-15	40-45	1.35-1.50	0.06-0.2	0.03-0.05	3.0-5.9	1.0-2.0	.05	.32			
	>15	---	---	0.00- 0.00	---	---	---	---	---			
142:												
Thimble----------	0-2	25-35	1.35-1.55	0.2-0.6	0.02-0.03	0.0-2.9	1.0-2.0	.05	.32	1	8	0
	2-10	40-50	1.20-1.30	0.06-0.2	0.09-0.12	3.0-5.9	1.0-2.0	.05	.32			
	10-15	---	---	0.00-0.06	---	---	---	---	---			
	>15	---	---	0.00- 0.00	---	---	---	---	---			
Rock outcrop--------	---	---	---	---	---	---	---	---	---	--	8	0
143:												
Tombstone family----	0-2	5-18	1.35-1.50	2-6	0.07-0.09	0.0-3.0	0.5-1.0	.15	.24	5	4	86
	2-16	10-18	1.35-1.50	2-6	0.04-0.08	0.0-3.0	0.0-0.5	.10	.24			
	16-46	10-18	1.35-1.50	2-6	0.04-0.08	0.0-3.0	0.0-0.5	.10	.24			
	46-60	10-18	1.35-1.50	2-6	0.03-0.05	0.0-3.0	0.0-0.5	.05	.24			
Caralampi family----	0-2	5-18	1.35-1.50	2-6	0.07-0.10	0.0-3.0	0.5-1.0	.15	.24	5	4	86
	2-6	5-18	1.35-1.50	2-6	0.07-0.10	0.0-3.0	0.0-0.5	.10	.24			
	6-21	18-35	1.25-1.40	0.6-2	0.06-0.10	3.0-6.0	0.0-0.5	.15	.32			
	21-32	18-35	1.25-1.40	0.6-2	0.06-0.10	3.0-6.0	0.0-0.5	.10	.32			
	32-60	5-18	1.35-1.50	2-6	0.05-0.08	0.0-3.0	0.0-0.5	.10	.24			
Nolam family--------	0-2	5-18	1.35-1.50	2-6	0.05-0.08	0.0-3.0	0.5-1.0	.10	.24	5	5	56
	2-5	5-18	1.35-1.50	2-6	0.05-0.08	0.0-3.0	0.0-0.5	.10	.24			
	5-18	18-35	1.25-1.40	0.6-2	0.06-0.10	3.0-6.0	0.0-0.5	.10	.32			
	18-24	18-20	1.35-1.50	0.6-2	0.05-0.08	0.0-3.0	0.0-0.5	.10	.24			
	24-30	5-18	1.35-1.50	2-6	0.05-0.08	0.0-3.0	0.0-0.5	.05	.24			
	30-60	5-18	1.35-1.50	2-6	0.03-0.05	0.0-3.0	0.0-0.5	.05	.24			

Table 14.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
144:												
Torriorthents	---	---	---	---	---	---	---	---	---	1	5	56
145:												
Torriorthents	---	---	---	---	---	---	---	---	---	2	6	48
Haplocambids	---	---	---	---	---	---	---	---	---	2	3	86
146:												
Torriorthents	---	---	---	---	---	---	---	---	---	1	3	86
Rock outcrop	---	---	---	---	---	---	---	---	---	--	8	0
147:												
Tovar	0-1	30-40	1.25-1.50	0.00-0.06	0.15-0.21	6.0-8.9	1.0-2.0	.20	.32	2	8	0
	1-4	35-40	1.25-1.50	0.00-0.06	0.15-0.21	6.0-8.9	1.0-2.0	.20	.32			
	4-7	35-40	1.25-1.50	0.00-0.06	0.15-0.21	6.0-8.9	0.8-1.2	.20	.32			
	7-10	40-55	1.15-1.30	0.00-0.06	0.14-0.16	6.0-9.0	0.5-1.0	.32	.32			
	10-29	40-55	1.30-1.40	0.06-0.2	0.14-0.17	6.0-8.9	0.5-1.0	.28	.32			
	>29	---	---	0.00- 0.00	---	---	---	---	---			
Grandwash	0-2	5-18	1.35-1.50	2-6	0.05-0.07	0.0-2.9	1.0-2.0	.10	.24	1	5	56
	2-7	30-40	1.20-1.30	0.2-0.6	0.15-0.17	3.0-5.9	1.0-2.0	.10	.32			
	7-17	40-55	1.15-1.30	0.06-0.2	0.07-0.09	0.0-2.9	1.0-2.0	.10	.37			
	>17	---	---	0.00- 0.00	---	---	---	---	---			
148:												
Truxton	0-2	7-18	1.25-1.50	0.6-3	0.14-0.18	0.0-2.0	1.0-2.0	.32	.32	5	5	56
	2-5	5-18	1.15-1.30	0.6-3	0.19-0.21	0.0-2.0	1.0-2.0	.43	.43			
	5-34	5-18	1.15-1.30	0.6-3	0.19-0.21	0.0-2.0	1.0-2.0	.43	.43			
	34-60	5-18	1.15-1.30	0.6-3	0.19-0.21	0.0-2.0	1.0-2.0	.43	.43			
Truxton, frequently flooded	0-1	7-18	1.25-1.50	0.6-3	0.14-0.18	0.0-2.0	1.0-2.0	.32	.32	5	5	56
	1-60	5-18	1.15-1.30	0.6-3	0.19-0.21	0.0-2.0	1.0-2.0	.43	.43			
149:												
Tumarion	0-3	20-25	1.15-1.25	2-6	0.05-0.08	0.0-2.9	0.5-1.0	.17	.64	1	6	48
	3-10	15-25	1.15-1.25	2-6	0.03-0.05	0.0-2.9	0.5-1.0	.05	.32			
	10-12	---	---	0.00-0.06	---	---	---	---	---			
	>12	---	---	0.00- 0.01	---	---	---	---	---			

Table 14.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
150:												
Tumarion	0-2	10-18	1.35-1.50	2-6	0.04-0.06	0.0-2.9	0.5-1.0	.05	.24	1	8	0
	2-15	15-25	1.35-1.50	2-6	0.07-0.12	0.0-2.9	0.5-1.0	.10	.24			
	15-19	---	---	0.00-0.06	---	---	---	---	---			
	>19	---	---	0.00- 0.00	---	---	---	---	---			
Nickel family	0-4	10-27	1.25-1.40	0.6-2	0.01-0.06	0.0-2.9	0.0-0.5	.02	.32	4	8	0
	4-23	18-25	1.15-1.40	0.6-2	0.08-0.12	0.0-2.9	0.0-1.0	.05	.55			
	23-51	12-27	1.25-1.40	2-6	0.07-0.09	0.0-2.9	0.0-1.0	.15	.32			
	51-60	8-15	1.35-1.50	2-6	0.07-0.12	0.0-2.9	0.0-1.0	.10	.24			
151:												
Tumarion	0-2	10-18	1.35-1.50	2-6	0.01-0.03	0.0-2.9	0.5-1.0	.10	.24	1	5	56
	2-16	15-25	1.35-1.50	2-6	0.01-0.03	0.0-2.9	0.5-1.0	.10	.24			
	16-19	---	---	0.00-0.06	---	---	---	---	---			
	>19	---	---	0.00- 0.00	---	---	---	---	---			
Nickel family	0-4	10-27	1.25-1.40	0.6-2	0.01-0.06	0.0-2.9	1.0-2.0	.02	.32	4	8	0
	4-23	18-25	1.15-1.40	0.6-2	0.08-0.12	0.0-2.9	0.0-1.0	.05	.55			
	23-51	12-27	1.25-1.40	2-6	0.07-0.09	0.0-2.9	0.0-1.0	.15	.32			
	51-60	8-15	1.35-1.50	2-6	0.07-0.12	0.0-2.9	0.0-1.0	.10	.24			
152:												
Tyro	0-2	5-18	1.25-1.35	2-6	0.04-0.08	0.0-3.0	0.0-1.0	.10	.24	1	8	0
	2-11	5-18	1.35-1.50	2-6	0.04-0.08	0.0-3.0	0.0-1.0	.10	.24			
	11-18	---	---	0.00-0.06	---	---	---	---	---			
	>18	---	---	0.00- 0.00	---	---	---	---	---			
153:												
Tyro	0-1	5-18	1.25-1.35	2-6	0.04-0.08	0.0-3.0	0.0-1.0	.10	.24	1	5	56
	1-6	5-18	1.35-1.50	2-6	0.04-0.08	0.0-3.0	0.0-1.0	.10	.24			
	6-9	5-18	1.35-1.50	2-6	0.04-0.08	0.0-3.0	0.0-1.0	.10	.24			
	9-14	---	---	0.00-0.06	---	---	---	---	---			
	>14	---	---	0.00- 0.00	---	---	---	---	---			
154:												
Tyro	0-2	7-15	1.25-1.40	2-6	0.02-0.07	0.0-2.9	0.2-0.8	.05	.32	1	8	0
	2-8	7-15	1.25-1.40	2-6	0.02-0.07	0.0-2.9	0.2-0.8	.05	.32			
	8-10	7-15	1.25-1.40	2-6	0.02-0.07	0.0-2.9	0.2-0.8	.05	.32			
	10-60	---	---	0.00- 0.00	---	---	---	---	---			

Table 14.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
154:												
Sunrock----------	0-2	5-20	1.25-1.35	2-6	0.03-0.05	0.0-2.9	0.0-1.0	.05	.24	1	8	0
	2-5	5-20	1.35-1.50	2-6	0.04-0.08	0.0-2.9	0.0-1.0	.10	.24			
	>5	---	---	0.00- 0.00	---	---	---	---	---			
155:												
Urban land----------	---	---	---	---	---	---	---	---	---	--	---	---
Calvista family-----	0-2	15-27	1.15-1.25	0.6-2	0.09-0.12	0.0-2.9	1.0-2.0	.10	.32	1	6	48
	2-10	18-27	1.35-1.45	2-6	0.05-0.07	0.0-2.9	0.5-1.0	.17	.32			
	>10	---	---	0.00- 0.00	---	---	---	---	---			
156:												
Ustorthents---------	---	---	---	---	---	---	---	---	---	2	8	0
Rock outcrop--------	---	---	---	---	---	---	---	---	---	--	8	0
157:												
Valena--------------	0-2	5-18	1.25-1.35	2-6	0.09-0.13	0.0-3.0	1.0-2.0	.24	.24	1	3	86
	2-7	15-18	1.35-1.50	2-6	0.09-0.13	0.0-3.0	1.0-2.0	.24	.24			
	7-12	20-35	1.25-1.50	0.6-2	0.16-0.21	0.0-3.0	0.0-1.0	.32	.32			
	>12	---	---	0.00- 0.00	---	---	---	---	---			
Carri---------------	0-2	5-18	1.25-1.35	2-6	0.09-0.13	0.0-3.0	1.0-2.0	.24	.24	2	3	86
	2-9	18-27	1.25-1.50	0.6-2	0.14-0.18	0.0-3.0	1.0-2.0	.37	.37			
	9-21	20-35	1.25-1.50	0.6-2	0.12-0.16	0.0-3.0	0.0-1.0	.32	.32			
	21-27	20-35	1.25-1.50	0.6-2	0.12-0.16	0.0-3.0	0.0-1.0	.32	.32			
	>27	---	---	0.00- 0.00	---	---	---	---	---			
158:												
Valena--------------	0-2	5-18	1.25-1.35	2-6	0.09-0.13	0.0-3.0	1.0-2.0	.24	.24	1	3	86
	2-7	15-18	1.35-1.50	2-6	0.09-0.13	0.0-3.0	1.0-2.0	.24	.24			
	7-12	20-35	1.25-1.50	0.6-2	0.16-0.21	0.0-3.0	0.0-1.0	.32	.32			
	>12	---	---	0.00- 0.00	---	---	---	---	---			
Rock outcrop--------	---	---	---	---	---	---	---	---	---	--	8	0
Carri family--------	0-2	7-18	1.10-1.20	2-6	0.11-0.13	0.0-2.9	1.0-2.0	.24	.24	5	3	86
	2-34	20-35	1.05-1.15	0.2-0.6	0.14-0.16	3.0-5.9	1.0-2.0	.32	.32			
	34-44	10-18	1.35-1.50	2-6	0.08-0.11	0.0-2.9	0.5-1.0	.20	.32			
	44-60	18-27	1.25-1.40	2-6	0.13-0.18	0.0-2.9	0.5-1.0	.32	.32			

Table 14.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
159:												
Vekol family--------	0-4	0-15	1.55-1.65	6-20	0.04-0.07	0.0-2.9	0.5-1.0	.05	.10	5	3	86
	4-10	5-20	1.45-1.65	6-20	0.07-0.11	0.0-2.9	0.5-1.0	.10	.15			
	10-26	35-55	1.55-1.65	0.06-0.2	0.10-0.14	3.0-5.9	0.5-1.0	.10	.15			
	26-40	20-35	1.55-1.65	0.2-0.6	0.09-0.14	3.0-5.9	0.5-1.0	.10	.15			
	40-60	0-10	1.55-1.65	20-20	0.03-0.05	0.0-2.9	0.5-1.0	.02	.05			
160:												
Vekol family--------	0-3	15-28	1.25-1.40	0.6-2	0.13-0.18	0.0-2.9	0.5-1.0	.32	.32	5	5	56
	3-21	40-55	1.15-1.30	0.06-0.2	0.14-0.16	9.0-10.9	0.5-1.0	.32	.32			
	21-45	40-55	1.15-1.30	0.06-0.2	0.14-0.16	9.0-10.9	0.5-1.0	.32	.32			
	45-57	20-35	1.25-1.40	0.2-0.6	0.14-0.19	0.0-2.9	0.5-1.0	.28	.32			
	57-60	18-25	1.25-1.40	0.6-2	0.13-0.18	0.0-2.9	0.2-0.8	.32	.32			
161:												
Vekol family--------	0-2	30-40	1.20-1.30	0.2-0.6	0.15-0.17	3.0-5.9	0.2-1.0	.10	.32	5	5	56
	2-39	40-55	1.15-1.30	0.06-0.2	0.14-0.16	9.0-10.9	0.2-0.8	.32	.32			
	39-60	40-55	1.15-1.30	0.06-0.2	0.07-0.08	9.0-10.9	0.0-0.5	.24	.32			
Whitehills----------	0-2	7-27	1.35-1.55	0.6-2	0.05-0.12	0.0-2.9	0.5-1.0	.20	.37	2	7	38
	2-7	7-27	1.35-1.55	0.6-2	0.05-0.12	0.0-2.9	0.5-1.0	.20	.37			
	7-19	27-35	1.25-1.55	0.2-0.6	0.07-0.14	3.0-5.9	0.5-1.0	.15	.32			
	19-27	7-27	1.35-1.55	0.6-2	0.05-0.12	0.0-2.9	0.5-1.0	.15	.37			
	>27	---	---	0.00-0.06	---	---	---	---	---			
162:												
Vock----------	0-6	5-20	1.35-1.50	2-6	0.04-0.08	0.0-3.0	1.0-2.0	.10	.24	1	5	56
	6-11	5-20	1.35-1.50	2-6	0.07-0.11	0.0-3.0	1.0-2.0	.15	.24			
	11-16	5-20	1.35-1.50	2-6	0.04-0.08	0.0-3.0	1.0-2.0	.10	.24			
	>16	---	---	0.00-0.06	---	---	---	---	---			
Elements----------	0-5	5-20	1.25-1.30	2-6	0.04-0.08	0.0-3.0	1.0-2.0	.10	.24	5	5	56
	5-11	5-20	1.35-1.50	2-6	0.04-0.08	0.0-3.0	1.0-2.0	.10	.24			
	11-52	7-20	1.25-1.50	0.6-2	0.05-0.12	0.0-3.0	0.0-1.0	.10	.37			
	52-60	5-20	1.35-1.50	2-6	0.04-0.07	0.0-3.0	0.0-1.0	.05	.24			
Rock outcrop--------	---	---	---	---	---	---	---	---	---	--	8	0

Table 14.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
163:												
Vock	0-1	5-20	1.35-1.50	2-6	0.04-0.08	0.0-3.0	1.0-2.0	.10	.24	1	5	56
	1-6	5-20	1.35-1.50	2-6	0.04-0.08	0.0-3.0	1.0-2.0	.10	.24			
	6-10	5-20	1.35-1.50	2-6	0.04-0.08	0.0-3.0	1.0-2.0	.10	.24			
	10-60	---	---	0.00-0.06	---	---	---	---	---			
Elements	0-5	5-20	1.25-1.30	2-6	0.04-0.08	0.0-3.0	1.0-2.0	.10	.24	5	5	56
	5-11	5-20	1.35-1.50	2-6	0.04-0.08	0.0-3.0	1.0-2.0	.10	.24			
	11-52	7-20	1.25-1.50	0.6-2	0.05-0.12	0.0-3.0	0.0-1.0	.10	.37			
	52-60	5-20	1.35-1.50	2-6	0.04-0.07	0.0-3.0	0.0-1.0	.05	.24			
Rock outcrop	---	---	---	---	---	---	---	---	---	--	8	0
164:												
Water	---	---	---	---	---	---	---	---	---	--	---	---
165:												
White House	0-1	0-15	1.55-1.65	6-20	0.04-0.07	0.0-2.9	1.0-3.0	.10	.17	4	3	86
	1-5	20-35	1.55-1.65	0.2-0.6	0.15-0.17	0.0-2.9	1.0-3.0	.28	.32			
	5-23	35-55	1.55-1.65	0.06-0.2	0.13-0.17	6.0-8.9	1.0-3.0	.24	.32			
	23-42	20-35	1.55-1.65	0.2-0.6	0.09-0.14	3.0-5.9	1.0-3.0	.15	.32			
	42-60	0-15	1.55-1.65	6-20	0.04-0.07	0.0-2.9	1.0-3.0	.10	.17			
166:												
White House family	0-1	0-15	1.55-1.65	6-20	0.02-0.05	0.0-2.9	1.0-2.0	.05	.17	4	4	86
	1-15	20-35	1.55-1.65	0.2-0.6	0.05-0.10	3.0-5.9	1.0-2.0	.10	.32			
	15-21	40-55	1.15-1.30	0.00-0.06	0.10-0.12	9.0-10.9	1.0-2.0	.28	.32			
	21-32	35-55	1.35-1.55	0.06-0.2	0.12-0.14	6.0-8.9	1.0-2.0	.15	.20			
	32-43	20-35	1.55-1.65	0.2-0.6	0.05-0.10	3.0-5.9	1.0-2.0	.15	.32			
	43-60	0-15	1.55-1.65	6-20	0.04-0.07	0.0-2.9	1.0-2.0	.05	.17			
167:												
Whitehills	0-2	7-27	1.35-1.55	0.6-2	0.05-0.12	0.0-2.9	0.5-1.0	.20	.37	2	7	38
	2-7	7-27	1.35-1.55	0.6-2	0.05-0.12	0.0-2.9	0.5-1.0	.20	.37			
	7-19	27-35	1.25-1.55	0.2-0.6	0.07-0.14	3.0-5.9	0.5-1.0	.15	.32			
	19-27	7-27	1.35-1.55	0.6-2	0.05-0.12	0.0-2.9	0.5-1.0	.15	.37			
	>27	---	---	0.00-0.06	---	---	---	---	---			
168:												
Wodomont	0-2	5-20	1.25-1.35	0.6-2	0.03-0.05	0.0-3.0	1.0-2.0	.05	.24	1	8	0
	2-8	5-18	1.35-1.50	2-6	0.03-0.05	0.0-3.0	1.0-2.0	.05	.24			
	8-18	5-18	1.35-1.50	2-6	0.03-0.05	0.0-3.0	1.0-2.0	.05	.24			
	>18	---	---	0.00- 0.00	---	---	---	---	---			

Table 14.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
168:												
Kydestea	0-2	20-25	1.25-1.40	0.6-2	0.06-0.10	0.0-2.9	1.0-3.0	.05	.32	1	8	0
	2-4	18-27	1.25-1.40	0.6-2	0.04-0.06	0.0-2.9	1.0-3.0	.05	.32			
	4-10	28-35	1.15-1.30	0.2-0.6	0.04-0.10	3.0-5.9	0.5-1.0	.05	.37			
	10-15	28-35	1.15-1.30	0.2-0.6	0.04-0.10	3.0-5.9	0.5-1.0	.05	.37			
	>15	---	---	0.00- 0.00	---	---	---	---	---			
169:												
Wodomont	0-2	5-20	1.25-1.35	2-6	0.03-0.05	0.0-3.0	1.0-2.0	.05	.24	1	8	0
	2-8	5-18	1.35-1.50	0.6-2	0.03-0.05	0.0-3.0	1.0-2.0	.05	.24			
	8-18	5-18	1.35-1.50	2-6	0.03-0.05	0.0-3.0	1.0-2.0	.05	.24			
	>18	---	---	0.00- 0.00	---	---	---	---	---			
Metuck	0-2	5-15	1.35-1.50	2-6	0.01-0.06	0.0-2.9	1.0-2.0	.05	.24	1	8	0
	2-6	10-18	1.35-1.50	2-6	0.06-0.14	0.0-2.9	0.5-1.0	.17	.24			
	>6	---	---	0.00- 0.00	---	---	---	---	---			
Rock outcrop	---	---	---	---	---	---	---	---	---	--	8	0
170:												
Wodomont	0-2	7-27	1.35-1.55	0.6-2	0.05-0.12	0.0-2.9	0.5-1.0	.20	.37	1	7	38
	2-12	7-27	1.35-1.55	0.6-2	0.05-0.12	0.0-2.9	0.5-1.0	.20	.37			
	12-15	10-15	1.15-1.30	0.6-2	0.08-0.14	0.0-2.9	0.1-0.5	.15	.43			
	>15	---	---	0.00- 0.00	---	---	---	---	---			
Rock outcrop	---	---	---	---	---	---	---	---	---	--	8	0
171:												
Yahana family	0-4	27-40	1.15-1.30	0.06-0.2	0.05-0.06	3.0-5.9	1.0-2.0	.37	.37	5	4	86
	4-8	10-50	1.15-1.40	0.06-0.2	0.04-0.05	6.0-8.9	0.5-1.0	.32	.32			
	8-29	18-27	1.00-1.55	0.6-2	0.19-0.21	3.0-6.0	0.5-1.0	.43	.43			
	29-41	10-50	1.15-1.40	0.06-0.2	0.04-0.05	6.0-8.9	0.5-1.0	.32	.32			
	41-56	27-40	1.15-1.30	0.06-0.2	0.05-0.06	3.0-5.9	0.5-1.0	.37	.37			
	56-60	3-5	1.45-1.60	6-20	0.02-0.03	0.0-2.9	0.0-0.5	.15	.15			
172:												
Zibate family	0-2	10-25	1.25-1.40	0.6-2	0.08-0.09	0.0-2.9	1.0-2.0	.10	.32	1	7	38
	2-5	30-35	1.25-1.40	0.2-0.6	0.07-0.11	0.0-2.9	0.5-1.0	.10	.32			
	5-13	30-35	1.15-1.30	0.2-0.6	0.04-0.11	0.0-2.9	0.1-0.2	.05	.37			
	>13	---	---	0.00- 0.00	---	---	---	---	---			

Table 14.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
173:												
Zibate family-------	0-2	10-18	1.25-1.40	2-6	0.07-0.12	0.0-2.9	0.5-1.0	.10	.32	1	7	38
	2-17	28-35	1.30-1.40	0.2-0.6	0.10-0.15	3.0-5.9	0.5-1.0	.05	.20			
	>17	---	---	0.00- 0.00	---	---	---	---	---			
174:												
Zibate family-------	0-1	18-28	1.25-1.40	2-6	0.07-0.09	0.0-2.9	0.5-1.0	.15	.32	1	8	0
	1-5	27-35	1.25-1.55	0.2-0.6	0.03-0.15	0.0-2.9	1.0-2.0	.10	.37			
	5-10	35-42	1.35-1.55	0.2-0.6	0.05-0.10	6.0-9.0	0.0-1.0	.05	.20			
	>10	---	---	0.00- 0.00	---	---	---	---	---			
Dutchflat-----------	0-3	8-15	1.35-1.50	2-6	0.08-0.13	0.0-2.9	0.5-1.0	.24	.24	5	3	86
	3-7	8-15	1.35-1.50	2-6	0.08-0.13	0.0-2.9	0.5-1.0	.24	.24			
	7-24	20-24	1.25-1.40	0.6-2	0.09-0.15	0.0-2.9	0.2-0.8	.10	.32			
	24-39	10-18	1.35-1.50	0.6-2	0.09-0.18	0.0-2.9	0.2-0.8	.20	.24			
	39-60	2-5	1.45-1.65	6-20	0.02-0.04	0.0-2.9	0.2-0.8	.05	.17			
Tumarion------------	0-2	10-18	1.35-1.50	2-6	0.04-0.06	0.0-2.9	0.5-1.0	.05	.24	1	8	0
	2-15	15-25	1.35-1.50	2-6	0.07-0.12	0.0-2.9	0.5-1.0	.10	.24			
	15-19	---	---	0.00-0.06	---	---	---	---	---			
	>19	---	---	0.00- 0.00	---	---	---	---	---			

Table 15.--Chemical Soil Properties

(Absence of an entry indicates that data were not estimated.)

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	Inches	meq/100 g	pH	Pct	Pct	mmhos/cm	
1:							
Alko family	0-1	5.0-15	7.9-8.4	0-30	0	0.0-2.0	0
	1-10	5.0-15	7.9-8.4	10-30	0	0.0-2.0	0
	10-15	5.0-15	7.9-8.4	10-30	0	0.0-2.0	0
	15-31	---	---	---	0	---	---
	31-60	0.0-10	8.5-9.0	15-35	0	0.0-2.0	0
2:							
Alko family	0-2	5.0-15	7.9-8.4	0-5	0	0.0-2.0	0
	2-10	5.0-15	7.9-8.4	0-5	0	0.0-2.0	0
	10-18	5.0-15	7.9-8.4	10-30	0	0.0-2.0	0
	18-31	---	---	---	---	---	---
	31-60	0.0-10	8.5-9.0	15-35	0	0.0-2.0	0
3:							
Appleseed	0-2	5.0-10	7.4-8.4	20-35	0	0	0
	2-11	5.0-10	7.4-8.4	20-35	0	0	0
	>11	---	---	---	0	---	---
Huevi	0-2	2.0-10	7.9-8.4	15-30	0	0.0-2.0	0-2
	2-18	2.0-10	7.9-8.4	15-30	0	0.0-2.0	0-2
	18-60	10-20	7.9-8.4	15-35	0	0.0-2.0	0-2
4:							
Aridic Argiustolls	---	---	---	---	---	---	---
Lithic Haplustolls	---	---	---	---	---	---	---
5:							
Arizo	0-6	1.0-5.0	7.9-8.4	1-5	0	0.0-2.0	0
	6-20	0.0-1.0	7.9-8.4	1-5	0	0.0-2.0	0
	20-60	2.0-15	7.9-8.4	1-5	0	0.0-2.0	0
Detrital	0-3	10-20	7.4-8.4	0-1	0	0.0-2.0	0-2
	3-24	5.0-10	7.4-8.4	3	0	0.0-2.0	0-2
	24-60	5.0-10	7.4-8.4	3-14	0	0.0-2.0	0-2
Nickel	0-3	2.0-10	7.4-8.4	0-5	0	0.0-2.0	0
	3-19	2.0-10	7.4-8.4	10-15	0	0.0-2.0	0
	19-60	2.0-10	7.4-8.4	15-25	0	0.0-2.0	0
6:							
Arizo	0-2	5.0-15	7.4-8.4	0-5	0	0.0-2.0	0
	2-11	5.0-15	7.4-8.4	0-5	0	0.0-2.0	0
	11-15	5.0-15	7.4-8.4	1-10	0	0.0-2.0	0
	15-35	0.0-10	7.4-8.4	1-10	0	0.0-2.0	0
	35-60	0.0-10	7.4-8.4	1-10	0	0.0-2.0	0
Franconia	0-2	2.0-10	7.4-8.4	5-10	0	0	0
	2-18	5.0-10	7.4-8.4	5-10	0	0	0
	18-33	5.0-10	7.4-8.4	5-10	0	0	0
	33-60	5.0-10	7.4-8.4	5-10	0	0	0
Riverwash	---	---	---	---	---	---	---

Table 15.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	Inches	meq/100 g	pH	Pct	Pct	mmhos/cm	
7:							
Arizo	0-1	2.0-10	7.4-8.4	2-10	0	0.0-2.0	0
	1-9	0.0-10	7.4-8.4	2-10	0	0.0-2.0	0
	9-60	0.0-10	7.4-8.4	2-10	0	0.0-2.0	0
Riverwash	---	---	---	---	---	---	---
8:							
Arizo	0-6	1.0-5.0	7.9-8.4	1-5	0	0.0-2.0	0
	6-20	0.0-1.0	7.9-8.4	1-5	0	0.0-2.0	0
	20-60	2.0-15	7.9-8.4	1-5	0	0.0-2.0	0
Riverwash	---	---	---	---	---	---	---
9:							
Arizo	0-6	1.0-5.0	7.9-8.4	0	0	0.0-2.0	0
	6-12	1.0-5.0	7.9-8.4	1-5	0	0.0-2.0	0
	12-60	0.0-5.0	7.9-8.4	10-15	0	0.0-2.0	0
Riverwash	---	---	---	---	---	---	---
10:							
Arizo	0-60	0.0-5.0	7.9-8.4	5-15	0	0.0-2.0	0
Riverwash	---	---	---	---	---	---	---
11:							
Azure	0-2	2.0-10	7.4-8.4	1-3	0	0.0-2.0	0
	2-6	2.0-10	7.4-8.4	3-7	0	0.0-2.0	0
	6-10	2.0-10	7.4-8.4	3-7	0	0.0-2.0	0
	10-28	---	---	---	0	---	---
	>28	---	---	---	0	---	---
Detrital	0-2	2.0-10	7.4-8.4	3-10	0	0.0-2.0	0
	2-27	2.0-10	7.4-8.4	3-14	0	0.0-2.0	0
	27-60	2.0-10	7.4-8.4	3-14	0	0.0-2.0	0
Antares	0-3	2.0-10	7.4-8.4	5-10	0	0.0-2.0	0
	3-18	2.0-10	7.4-8.4	5-10	0	0.0-2.0	0
	18-60	---	---	---	0	---	---
12:							
Birdsbeak	0-2	5.0-15	7.4-8.4	0	0	0.0-2.0	0
	2-4	10-25	7.4-8.4	0	0	0.0-2.0	0
	4-8	20-40	7.4-8.4	0	0	0.0-2.0	0
	8-20	---	---	---	0	---	---
	20-60	---	---	---	0	---	---
13:							
Bluebird	0-2	5.0-10	7.4-8.4	0	0	0.0-2.0	0
	2-5	1.0-5.0	7.4-8.4	0	0	0.0-2.0	0
	5-30	5.0-15	7.4-8.4	0	0	0.0-2.0	0
	30-60	2.0-5.0	7.4-8.4	1-5	0	0.0-2.0	0
Detrital	0-1	5.0-10	7.4-8.4	0	0	0.0-2.0	0-2
	1-13	2.0-10	7.4-8.4	3-10	0	0.0-2.0	0
	13-60	2.0-10	7.4-8.4	3-14	0	0.0-2.0	0

Table 15.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	Inches	meq/100 g	pH	Pct	Pct	mmhos/cm	
14:							
Bluebird	0-2	10-25	7.4-8.4	1-5	0	0	0
	2-8	5.0-15	7.4-8.4	10-15	0	0	0
	8-20	5.0-15	7.4-8.4	10-15	0	0	0
	20-60	5.0-15	7.4-8.4	1-15	0	0	0
Lostman	0-3	10-20	7.4-8.4	0	0	0.0-2.0	0
	3-12	10-20	7.4-8.4	0	0	0.0-2.0	0
	12-57	5.0-15	7.4-8.4	10-15	0	0.0-2.0	0
	57-68	15-25	7.4-8.4	10-15	0	0.0-2.0	0
15:							
Carrizo	0-1	5.0-15	7.4-8.4	1-5	0	0.0-2.0	0-13
	1-4	10-15	7.4-8.4	1-5	0	0.0-2.0	0-13
	4-60	0.0-10	7.4-8.4	2-10	0	0.0-2.0	0-13
Carrizo, rarely flooded	0-2	5.0-15	7.4-8.4	1-5	0	0.0-2.0	0-13
	2-60	0.0-10	7.4-8.4	1-5	0	0.0-2.0	0-13
16:							
Carrizo	0-2	5.0-10	7.4-8.4	1-5	0	0.0-2.0	0-13
	2-6	0.0-5.0	7.4-8.4	1-5	0	0.0-2.0	0-13
	6-17	5.0-10	7.4-8.4	1-5	0	0.0-2.0	0-13
	17-60	0.0-10	7.4-8.4	1-5	0	0.0-2.0	0-13
Riverwash	---	---	---	---	---	---	---
17:							
Carrizo	0-1	0.0-10	7.4-8.4	2-10	0	0.0-2.0	0
	1-23	0.0-10	7.4-8.4	2-10	0	0.0-2.0	0
	23-60	0.0-5.0	7.4-8.4	2-10	0	0.0-2.0	0
Riverwash	---	---	---	---	---	---	---
18:							
Chuckawalla	0-1	5.0-15	7.4-7.8	1-15	0	0.0-2.0	0
	1-5	10-20	7.4-8.4	1-15	0	2.0-20.0	0
	5-20	10-20	7.4-8.4	15-25	0	2.0-20.0	0
	20-29	0.0-10	7.4-8.4	15-25	0	2.0-8.0	0
	29-34	5.0-15	7.4-8.4	15-25	0	0.0-2.0	0
	34-60	0.0-10	7.4-8.4	10-25	0	0.0-2.0	0
Riverbend	0-2	2.0-10	7.9-8.4	1-5	0	0.0-2.0	0
	2-7	2.0-10	7.9-8.4	1-5	0	0.0-2.0	0
	7-18	0.0-10	7.9-8.4	10-20	0	0.0-2.0	0
	18-34	0.0-10	7.4-8.4	10-20	0	0.0-2.0	0
	34-60	1.0-5.0	7.9-8.4	10-20	0	0.0-2.0	0
19:							
Circular	0-4	2.0-10	7.9-8.4	1-5	0	0.0-2.0	0
	4-27	2.0-10	7.9-8.4	1-5	0	0.0-2.0	0
	27-60	2.0-10	7.9-8.4	5-10	0	0.0-2.0	0

Table 15.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	Inches	meq/100 g	pH	Pct	Pct	mmhos/cm	
19:							
Circular	0-3	5.0-15	7.4-8.4	0	0	0	0
	3-11	5.0-15	7.4-8.4	0	0	0	0
	11-22	5.0-15	7.4-8.4	0-2	0	0	0
	22-36	5.0-10	7.4-8.4	0-2	0	0	0
	36-45	5.0-10	7.4-8.4	0-2	0	0	0
	45-60	5.0-10	7.4-8.4	0-2	0	0	0
20:							
Circular	0-2	2.0-10	7.9-9.0	1-10	0	0.0-2.0	0-13
	2-35	2.0-10	7.9-9.0	1-10	0	0.0-2.0	0-13
	35-44	2.0-10	7.9-9.0	1-10	0	0.0-2.0	0-13
	44-60	0.0-10	7.9-9.0	1-10	0	0.0-2.0	0-13
Dusty	0-2	2.0-10	7.4-8.4	1-5	0	0.0-2.0	0
	2-4	2.0-10	7.4-8.4	1-10	0	0.0-2.0	0
	4-20	10-20	8.5-9.0	15-25	0	0.0-8.0	13-30
	20-35	10-20	7.4-8.4	15-25	0	2.0-8.0	1-13
	35-60	2.0-10	7.4-8.4	5-25	0	2.0-8.0	1-13
21:							
Cod	0-2	0.0-3.0	7.4-8.4	2-10	0	0.0-2.0	0
	2-14	0.0-3.0	7.4-8.4	5-15	0	0.0-2.0	0
	14-20	0.0-3.0	7.4-8.4	15-30	0	0.0-2.0	0
	20-48	0.0-3.0	7.4-8.4	15-30	0	0.0-2.0	0
	48-60	0.0-3.0	7.9-9.0	10-30	0	0.0-2.0	0-5
22:							
Cordes	0-2	5.0-15	6.6-7.3	0	0	0.0-2.0	0
	2-32	5.0-15	6.6-7.3	0	0	0.0-2.0	0
	32-60	5.0-20	6.6-7.3	0	0	0	0
Manikan	0-3	5.0-15	7.4-8.4	1-10	0	0.0-2.0	0
	3-24	10-20	7.9-9.0	1-10	0	0.0-10.0	13-30
	24-39	10-20	7.9-9.0	1-10	0	0.0-10.0	13-30
	39-60	10-25	6.6-7.8	0	0	0.0-2.0	0-2
Riverwash	---	---	---	---	---	---	---
23:							
Cupel	0-2	2.0-10	7.4-8.4	0-10	0	0	0
	2-12	10-20	7.4-8.4	0-10	0	0	0
	12-17	10-20	7.4-8.4	0-10	0	0	0
	>17	---	---	---	0	---	---
Rock outcrop	---	---	---	---	---	---	---
24:							
Cyclopic	0-2	5.0-10	7.4-8.4	0	0	0	0
	2-5	12-25	7.4-8.4	0	0	0	0
	5-25	15-35	7.4-8.4	0-5	0	0	0
	25-60	---	---	---	0	---	---

Table 15.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	Inches	meq/100 g	pH	Pct	Pct	mmhos/cm	
25:							
Deluge	0-2	2.0-10	7.4-8.4	1-10	0	0	0
	2-8	10-20	7.4-8.4	5-15	0	0	0
	8-18	10-20	7.4-8.4	5-15	0	0	0
	18-24	10-20	7.4-8.4	5-15	0	0	0
	24-52	---	---	---	0	---	---
	>52	---	---	---	0	---	---
Gotchell	0-2	2.0-10	7.4-8.4	2-10	0	0	0
	2-14	2.0-10	7.4-8.4	2-10	0	0	0
	14-28	---	---	---	0	---	---
	>28	---	---	---	0	---	---
Sunstroke	0-2	2.0-10	7.4-8.4	2-15	0	0	0
	2-18	2.0-10	7.4-8.4	2-15	0	0	0
	18-24	2.0-10	7.4-8.4	2-15	0	0	0
	24-45	---	---	---	0	---	---
	>45	---	---	---	0	---	---
26:							
Detrital	0-2	2.0-10	7.4-8.4	3-10	0	0.0-2.0	0
	2-60	2.0-10	7.4-8.4	3-14	0	0.0-2.0	0
Bluebird	0-3	10-20	7.4-8.4	0	0	0.0-2.0	0
	3-18	10-20	7.4-8.4	0-10	0	0.0-2.0	0
	18-44	2.0-10	7.4-8.4	0-10	0	0.0-2.0	0
	44-60	10-20	7.4-8.4	0-10	0	0.0-2.0	0
27:							
Detrital	0-2	10-20	7.4-8.4	0-1	0	0.0-2.0	0
	2-14	10-20	7.4-8.4	1-5	0	0.0-2.0	0
	14-45	5.0-10	7.9-8.4	5-14	0	0.0-2.0	0
	45-60	5.0-10	7.9-8.4	5-14	0	0.0-2.0	0
Nealy	0-2	5.0-10	7.4-8.4	0	0	0.0-2.0	0
	2-14	5.0-15	7.4-8.4	7-14	0	0.0-2.0	0
	14-33	10-25	7.4-8.4	15-25	0	0.0-2.0	0
	33-48	---	---	---	0	---	---
	48-60	0.0-5.0	7.4-8.4	2-25	0	0.0-2.0	0
28:							
Detrital	0-2	2.0-10	7.4-8.4	3-10	0	0.0-2.0	0
	2-60	2.0-10	7.4-8.4	3-14	0	0.0-2.0	0
Nickel	0-2	2.0-10	7.4-8.4	10-15	0	0.0-2.0	0
	2-11	2.0-10	7.4-8.4	10-15	0	0.0-2.0	0
	11-28	5.0-10	7.9-8.4	10-15	0	0.0-2.0	0
	28-46	2.0-10	7.4-9.0	13-25	0	0.0-2.0	0
	46-60	5.0-10	7.9-9.0	15-25	0	0.0-2.0	0
29:							
Detrital	0-1	2.0-10	7.4-8.4	3-10	0	0.0-2.0	0
	1-13	2.0-10	7.4-8.4	3-10	0	0.0-2.0	0
	13-26	2.0-10	7.4-8.4	3-14	0	0.0-2.0	0
	26-60	2.0-10	7.4-8.4	3-14	0	0.0-2.0	0

Table 15.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	Inches	meq/100 g	pH	Pct	Pct	mmhos/cm	
29:							
Nickel family--------	0-2	2.0-10	7.4-8.4	0-10	0	0.0-2.0	0
	2-21	2.0-10	7.4-8.4	5-15	0	0.0-2.0	0
	21-42	2.0-10	7.4-8.4	15-25	0	0.0-2.0	0
	42-60	---	---	---	0	---	---
30:							
Detrital----------	0-2	2.0-10	7.4-8.4	3-10	0	0.0-2.0	0
	2-60	2.0-10	7.4-8.4	3-14	0	0.0-2.0	0
Skelon family--------	0-2	5.0-10	7.9-8.4	1-5	0	0.0-2.0	0-13
	2-22	5.0-10	7.9-8.4	10-15	0	0.0-2.0	0-13
	22-60	---	---	---	0	---	---
31:							
Dusty----------	0-2	2.0-10	7.9-8.4	1-5	0	0.0-2.0	0
	2-6	2.0-10	7.9-8.4	1-5	0	0.0-2.0	0
	6-10	2.0-10	7.9-8.4	1-10	0	0.0-2.0	0
	10-19	10-20	8.5-9.0	15-25	0	0.0-2.0	13-20
	19-24	10-20	8.5-9.0	10-25	0	0.0-2.0	0-13
	24-31	10-20	8.5-9.0	10-25	0	0.0-2.0	0-13
	31-50	10-20	7.9-8.4	15-50	0	0.0-2.0	0
	50-60	2.0-10	7.9-8.4	5-15	0	0.0-2.0	0
Kurstan family-------	0-3	5.0-10	7.9-8.4	5-10	0	0.0-2.0	0-2
	3-18	5.0-10	7.9-8.4	5-10	0	0.0-2.0	0-2
	18-26	5.0-10	7.9-9.0	15-30	0	0.0-2.0	0-2
	26-58	5.0-10	8.4-9.0	10-20	0	0.0-2.0	0-2
	58-60	1.0-5.0	7.9-9.0	10-15	0	0.0-2.0	0-2
32:							
Dutchflat----------	0-4	5.0-15	7.4-7.8	0	0	0.0-2.0	0
	4-37	10-20	7.4-7.8	0	0	0.0-2.0	0
	37-60	5.0-15	7.4-8.4	1-10	0	0.0-2.0	0
33:							
Dye----------	0-2	10-25	6.6-7.8	0	0	0.0-2.0	0
	2-13	15-40	6.6-7.8	0	0	0.0-2.0	0
	>13	---	---	---	0	---	---
Tovar----------	0-1	5.0-15	7.4-7.8	0	0	0.0-2.0	0-2
	1-3	5.0-20	7.4-7.8	0	0	0.0-2.0	0-2
	3-11	10-30	7.4-7.8	0	0	0.0-2.0	0-2
	11-21	20-40	7.4-7.8	0	0	0.0-2.0	0-2
	21-27	20-50	7.9-8.4	0-5	0	0.0-2.0	0-2
	27-35	20-50	7.9-8.4	0-10	0	0.0-2.0	0-2
	>35	---	---	---	0	---	---
Rock outcrop---------	---	---	---	---	---	---	---
34:							
Faraway----------	0-3	5.0-10	6.6-7.4	0	0	0	0
	3-7	0.0-0.0	6.6-7.4	0	0	0	0
	7-9	---	---	---	---	---	---
	>9	---	---	---	---	---	---

Table 15.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	Inches	meq/100 g	pH	Pct	Pct	mmhos/cm	
34:							
Rock outcrop	---	---	---	---	---	---	---
35:							
Fig	0-2	2.0-10	7.4-8.4	0	0	0.0-2.0	0
	2-9	2.0-10	7.4-8.4	0	0	0.0-2.0	0
	9-60	---	---	---	0	---	---
Blind	0-2	2.0-10	7.4-7.8	0	0	0.0-2.0	0
	2-5	2.0-10	7.4-7.8	0	0	0.0-2.0	0
	5-15	10-20	7.4-8.4	0	0	0.0-2.0	0
	15-27	10-20	7.4-8.4	0	0	0.0-2.0	0
	27-44	10-20	7.4-8.4	0	0	0.0-2.0	0
	44-60	10-20	7.4-8.4	0	0	0.0-2.0	0
Nodman	0-2	2.0-10	7.4-8.4	0	0	0.0-2.0	0
	2-5	2.0-10	7.4-8.4	0	0	0.0-2.0	0
	5-8	2.0-10	7.4-8.4	0	0	0.0-2.0	0
	8-10	2.0-10	7.4-8.4	0	0	0.0-2.0	0
	10-60	---	---	---	0	---	---
36:							
Filaree	0-2	5.0-10	7.4-8.4	0-10	0	0	0
	2-18	5.0-10	7.4-8.4	0-10	0	0	0
	18-34	5.0-10	7.4-8.4	0-10	0	0	0
	34-60	5.0-10	7.4-8.4	0-10	0	0	0
37:							
Filaree	0-2	5.0-10	7.4-8.4	0-10	0	0	0
	2-60	5.0-10	7.4-8.4	0-10	0	0	0
Dutchflat	0-3	2.0-5.0	7.4-8.4	0	0	0	0
	3-7	2.0-5.0	7.4-8.4	0	0	0	0
	7-24	5.0-15	7.4-8.4	0	0	0	0
	24-39	10-15	7.4-8.4	5-10	0	0	0
	39-60	0.0-5.0	7.4-8.4	5-10	0	0	0
38:							
Garnet	0-2	10-20	7.4-7.8	0	0	0	0
	2-7	2.0-5.0	7.4-7.8	0	0	0	0
	7-11	10-25	7.4-7.8	0	0	0	0
	11-20	10-25	7.9-8.4	0	0	0	0
	20-23	5.0-15	7.9-8.4	0	0	0	0
	23-30	2.0-5.0	7.9-8.4	0	0	0	0
	30-60	0.0-5.0	7.9-8.4	0	0	0	0
Dutchflat	0-3	2.0-5.0	7.4-8.4	0	0	0	0
	3-7	2.0-5.0	7.4-8.4	0	0	0	0
	7-24	5.0-15	7.4-8.4	0	0	0	0
	24-39	10-15	7.4-8.4	5-10	0	0	0
	39-60	0.0-5.0	7.4-8.4	5-10	0	0	0
39:							
Goesling family	0-2	5.0-20	7.4-7.8	2-5	0	0.0-2.0	0
	2-15	5.0-20	7.4-7.8	5-10	0	0.0-2.0	0
	15-60	10-30	7.9-8.4	15-30	0	0.0-2.0	0

Table 15.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	Inches	meq/100 g	pH	Pct	Pct	mmhos/cm	
40:							
Goldroad	0-2	2.0-10	7.4-8.4	1-10	0	0.0-2.0	0
	2-5	2.0-10	7.4-8.4	3-10	0	0.0-2.0	0
	5-6	---	---	---	0	---	---
	>6	---	---	---	0	---	---
Rock outcrop	---	---	---	---	---	---	---
41:							
Goldroad	0-1	2.0-10	7.4-8.4	1-10	0	0.0-2.0	0
	1-8	2.0-10	7.4-8.4	1-10	0	0.0-2.0	0
	>8	---	---	---	0	---	---
Rock outcrop	---	---	---	---	---	---	---
42:							
Gonzales	0-1	5.0-25	6.6-7.3	0	0	0.0-2.0	0
	1-7	20-40	6.1-7.3	0	0	0.0-2.0	0
	7-14	20-40	6.1-7.3	0	0	0.0-2.0	0
	14-17	---	---	---	0	---	---
	>17	---	---	---	0	---	---
Rock outcrop	---	---	---	---	---	---	---
43:							
Goodsprings family	0-2	0.0-5.0	7.4-8.4	1-15	0	0	0
	2-18	5.0-10	7.4-8.4	2-10	0	0	0
	18-39	---	---	---	---	---	---
	39-60	0.0-4.0	7.9-8.4	5-25	0	0	0
44:							
Gotchell	0-2	2.0-10	7.4-8.4	2-10	0	0	0
	2-14	2.0-10	7.4-8.4	2-10	0	0	0
	14-28	---	---	---	0	---	---
	>28	---	---	---	0	---	---
Sunstroke	0-2	2.0-10	7.4-8.4	2-15	0	0	0
	2-24	2.0-10	7.4-8.4	2-15	0	0	0
	24-45	---	---	---	0	---	---
	>45	---	---	---	0	---	---
45:							
Graham	0-2	5.0-20	7.4-8.4	0	0	0	0-2
	2-7	10-30	7.4-8.4	0	0	0	0-2
	7-14	20-40	7.4-8.4	0	0	0	0-2
	>14	---	---	---	0	---	---
Arivaca	0-2	15-25	6.6-7.8	0	0	0.0-2.0	0
	2-6	20-40	6.6-7.8	0	0	0.0-2.0	0
	6-17	20-40	7.4-8.4	0-10	0	0.0-2.0	0
	17-30	20-40	7.4-8.4	0-10	0	0.0-2.0	0
	30-36	15-25	7.4-7.8	15-25	0	0.0-2.0	0
	>36	---	---	---	0	---	---

Table 15.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	Inches	meq/100 g	pH	Pct	Pct	mmhos/cm	
46:							
Graham	0-2	5.0-20	6.6-8.4	0	0	0	0-2
	2-7	10-30	7.4-8.4	0	0	0	0-2
	7-14	20-40	7.4-8.4	0	0	0	0-2
	>14	---	---	---	0	---	---
Rock outcrop	---	---	---	---	---	---	---
47:							
Grandwash	0-1	5.0-15	6.6-7.3	0-5	0	0.0-2.0	0
	1-2	5.0-15	6.6-7.3	0-5	0	0.0-2.0	0
	2-12	15-35	6.6-7.3	0-5	0	0.0-2.0	0
	>12	---	---	---	0	---	---
48:							
Greyeagle family	0-2	2.0-10	7.4-8.4	1-5	0	0.0-2.0	0-5
	2-8	5.0-15	7.4-8.4	5-15	0	0.0-2.0	0-5
	8-16	5.0-15	7.4-8.4	1-5	0	0.0-2.0	0-5
	16-60	---	---	---	0	---	---
49:							
Greyeagle family	0-2	5.0-10	7.9-8.4	0-5	0	0.0-2.0	0
	2-14	5.0-10	7.9-8.4	10-15	0	0.0-2.0	0
	14-60	---	---	---	0	---	---
50:							
Greyeagle family	0-2	0.0-10	7.9-8.4	0-10	0	0.0-2.0	0
	2-12	2.0-10	7.9-8.4	2-15	0	0.0-2.0	0
	12-60	---	---	---	0	---	---
Cyclopic	0-2	2.0-10	7.4-8.4	1-5	0	0	0
	2-5	10-20	7.4-8.4	1-5	0	0	0
	5-16	15-35	7.4-8.4	1-5	0	0	0
	16-26	15-35	7.4-8.4	1-5	0	0	0
	26-60	---	---	---	0	---	---
51:							
Greyeagle family	0-2	5.0-10	7.9-8.4	15-30	0	0	0
	2-8	5.0-10	7.9-8.4	15-30	0	0	0
	8-15	5.0-10	7.9-8.4	15-30	0	0	0
	15-60	---	---	---	0	---	---
Skelon family	0-2	5.0-15	7.4-8.4	1-5	0	0	0
	2-11	5.0-15	7.4-8.4	15-30	0	0	0
	11-24	15-25	7.4-8.4	15-30	0	0.0-2.0	0
	24-60	---	---	---	0	---	---
52:							
Greyeagle family	0-3	5.0-10	7.9-8.4	10-15	0	0.0-2.0	0
	3-12	5.0-10	7.9-8.4	15-30	0	0.0-2.0	0
	12-60	---	---	---	0	---	---

Table 15.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	Inches	meq/100 g	pH	Pct	Pct	mmhos/cm	
52:							
Skelon family	0-2	5.0-10	7.9-8.4	1-5	0	0.0-2.0	0-13
	2-13	5.0-10	7.9-8.4	10-15	0	0.0-2.0	0-13
	13-24	5.0-10	7.9-8.4	10-15	0	0.0-2.0	0
	24-60	---	---	---	0	---	---
53:							
Gypsids	---	---	---	---	---	---	---
54:							
Haplogypsids, eroded-	---	---	---	---	---	---	---
Haplogypsids	---	---	---	---	---	---	---
55:							
Hassell family	0-4	10-20	7.4-8.4	0-3	0	0	0-2
	4-13	20-40	7.4-8.4	0-3	0	0	0-2
	13-24	20-40	7.4-8.4	0-3	0	0	0-2
	24-33	10-25	7.4-8.4	0-3	0	0	0-2
	33-47	---	---	---	0	---	---
	>47	---	---	---	0	---	---
Lampshire	0-1	5.0-20	6.6-8.4	0	0	0	0
	1-6	5.0-20	6.6-8.4	0	0	0	0
	6-9	---	---	---	0	---	---
	>9	---	---	---	0	---	---
Rock outcrop	---	---	---	---	---	---	---
56:							
Hindu	0-3	5.0-15	7.9-8.4	10-35	0	0.0-2.0	0
	3-9	10-20	7.4-8.4	20-35	0	0.0-2.0	0-2
	>9	---	---	---	0	---	---
Rock outcrop	---	---	---	---	---	---	---
57:							
Hooks family	0-3	5.0-11	6.1-8.4	0-2	0-2	0.0-2.0	0-13
	3-17	4.0-10	6.1-8.4	0-2	0-2	0.0-2.0	0-13
	17-39	4.0-10	6.1-8.4	0-2	0-2	0.0-2.0	0-13
	39-55	4.0-10	6.1-8.4	0-2	0-2	0.0-2.0	0-13
	55-60	4.0-10	6.1-8.4	2-5	0-2	0.0-2.0	0-13
Courtland family	0-3	6.0-12	6.1-7.3	0-2	0-2	0.0-2.0	0-13
	3-12	8.0-15	6.6-7.3	0-2	0-2	0.0-2.0	0-13
	12-36	4.0-10	6.6-7.3	0-2	0-2	0.0-2.0	0-13
	36-44	13-20	6.6-7.3	0-2	0-2	0.0-2.0	0-13
	44-60	13-20	7.4-8.4	2-5	0-2	0.0-2.0	0-13
58:							
Hosta family	0-3	5.0-15	7.3-7.8	0	0	0.0-2.0	0-2
	3-8	10-25	7.3-7.8	0	0	0.0-2.0	0-2
	8-28	15-40	7.3-7.8	1-5	0	0.0-2.0	0-2
	28-38	20-30	7.9-8.4	1-5	0	0.0-2.0	0-2
	38-60	15-30	7.9-8.4	1-5	0	0.0-2.0	0-2

Table 15.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	Inches	meq/100 g	pH	Pct	Pct	mmhos/cm	
59:							
House Mountain family	0-2	5.0-20	7.4-8.4	0	0	0	0
	2-5	10-20	7.4-8.4	0	0	0	0
	5-9	---	---	---	0	---	---
	>9	---	---	---	0	---	---
Calvista family------	0-2	5.0-15	7.4-8.4	10-20	0	0.0-2.0	0
	2-10	5.0-15	7.4-8.4	15-30	0	0.0-2.0	0
	>10	---	---	---	0	---	---
Rock outcrop---------	---	---	---	---	---	---	---
60:							
Huevi----------	0-2	5.0-10	7.9-8.4	10-15	0	0.0-2.0	0-2
	2-12	10-15	7.9-8.4	10-15	0	0.0-2.0	0-2
	12-60	5.0-10	7.9-8.4	15-30	0	0.0-2.0	0-2
61:							
Huevi----------	0-2	2.0-10	7.4-8.4	5-10	0	0	0
	2-9	2.0-10	7.4-8.4	10-15	0	0	0
	9-27	2.0-10	7.4-8.4	15-30	0	0	0
	27-40	2.0-10	7.9-8.4	15-30	0	0	0
	40-60	0.0-10	7.9-8.4	2-10	0	0	0
62:							
Huevi----------	0-2	2.0-10	7.4-8.4	5-10	0	0.0-2.0	0
	2-20	2.0-10	7.4-8.4	15-20	0	0.0-2.0	0
	20-49	2.0-10	7.4-8.4	15-35	0	0.0-2.0	0
	49-60	0.0-10	7.4-8.4	5-15	0	0.0-2.0	0
63:							
Huevi----------	0-2	10-15	7.4-8.4	5-10	0	0.0-2.0	0-1
	2-9	2.0-10	7.4-8.4	5-15	0	2.0-4.0	1-13
	9-28	2.0-10	7.4-8.4	5-15	0	4.0-8.0	1-13
	28-40	5.0-10	7.4-8.4	15-30	0	4.0-8.0	1-13
	40-60	0.0-5.0	7.4-8.4	5-10	0	4.0-8.0	1-13
Carrizo----------	0-1	5.0-15	7.4-8.4	10-15	0	0.0-2.0	0-13
	1-10	0.0-10	7.4-8.4	10-15	0	0.0-2.0	0-13
	10-60	0.0-10	7.4-8.4	10-15	0	0.0-2.0	0-13
64:							
Huevi----------	0-3	5.0-10	7.9-8.4	5-15	0	0.0-2.0	0-2
	3-7	5.0-10	7.9-9.0	15-30	0	0.0-2.0	0-2
	7-36	5.0-10	7.9-9.0	15-35	0	0.0-2.0	0-2
	36-52	5.0-10	7.9-9.0	15-35	0	0.0-2.0	0-2
	52-60	5.0-10	7.9-9.0	10-30	0	0.0-2.0	0-2
Carrwash----------	0-60	0.0-5.0	7.4-8.4	2-10	0	0.0-2.0	0
65:							
Huevi----------	0-2	5.0-10	7.9-8.4	5-15	0	0.0-2.0	0-2
	2-40	5.0-15	7.9-8.4	15-30	0	0.0-2.0	0-2
	40-60	5.0-10	7.9-8.4	15-30	0	0.0-2.0	0-2

Table 15.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	Inches	meq/100 g	pH	Pct	Pct	mmhos/cm	
65:							
Sunrock	0-1	2.0-10	7.4-8.4	1-15	0	0.0-2.0	0
	1-10	2.0-10	7.4-8.4	1-15	0	0	0
	>10	---	---	---	0	---	---
Rock outcrop	---	---	---	---	---	---	---
66:							
Hulda	0-3	2.0-10	7.4-8.4	5-13	0	0.0-2.0	0
	3-8	2.0-10	7.4-8.4	5-13	0	0.0-2.0	0
	>8	---	---	---	0	---	---
67:							
Hulda	0-1	5.0-20	7.4-8.4	0-2	0	0.0-2.0	0
	1-6	2.0-10	7.4-8.4	5-13	0	0.0-2.0	0
	>6	---	---	---	0	---	---
Rock outcrop	---	---	---	---	---	---	---
68:							
Hulda	0-2	5.0-10	7.4-8.4	5-13	0	0	0
	2-5	5.0-10	7.4-8.4	5-13	0	0	0
	>5	---	---	---	0	---	---
Rock outcrop	---	---	---	---	---	---	---
69:							
Ireteba family	0-2	2.0-10	7.9-8.4	1-5	0	0	0
	2-10	2.0-10	7.9-8.4	1-5	0	0	0
	10-19	2.0-10	7.9-8.4	5-10	0	0	0
	19-31	2.0-10	7.9-8.4	5-10	0	0	0
	31-41	2.0-10	7.9-8.4	5-10	0	0	0
	41-60	0.0-10	7.9-8.4	5-10	0	0	0
Arizo	0-2	5.0-15	7.4-8.4	0-5	0	0.0-2.0	0
	2-11	5.0-15	7.4-8.4	0-5	0	0.0-2.0	0
	11-15	5.0-15	7.4-8.4	1-10	0	0.0-2.0	0
	15-35	0.0-10	7.4-8.4	1-10	0	0.0-2.0	0
	35-60	0.0-10	7.4-8.4	1-10	0	0.0-2.0	0
70:							
Jagerson	0-2	5.0-15	7.4-8.4	0	0	0	0
	2-9	5.0-15	7.4-8.4	0	0	0	0
	9-18	15-25	7.9-8.4	5-10	0	0	0
	18-42	2.0-10	7.4-8.4	15-35	0	0	0
	42-60	0.0-5.0	7.4-8.4	5-20	0	0	0
71:							
Jagerson	0-2	10-20	7.4-8.4	1-10	0	0	0
	2-9	10-20	7.4-8.4	1-10	0	0	0
	9-18	10-20	7.4-8.4	5-15	0	0	0
	18-42	2.0-10	7.4-8.4	15-30	0	0	0
	42-60	0.0-5.0	7.4-8.4	5-20	0	0	0

Table 15.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	Inches	meq/100 g	pH	Pct	Pct	mmhos/cm	
71:							
Nealy	0-2	5.0-15	7.4-8.4	0-10	0	0.0-2.0	0
	2-14	5.0-15	7.4-8.4	7-14	0	0.0-2.0	0
	14-33	10-25	7.4-8.4	15-25	0	0.0-2.0	0
	33-48	---	---	---	0	---	---
	48-60	0.0-5.0	7.4-8.4	2-25	0	0.0-2.0	0
72:							
Kingtut	0-2	0.0-15	7.4-8.4	1-5	0	0.0-2.0	0
	2-4	5.0-20	7.4-8.4	5-10	0	0.0-2.0	0
	4-17	15-30	7.4-8.4	10-15	0	0.0-2.0	0
	17-33	---	---	---	0	---	---
	>33	---	---	---	0	---	---
Promontory	0-2	5.0-15	7.4-8.4	3-10	0	0.0-2.0	0
	2-12	2.0-10	7.4-8.4	5-15	0	0.0-2.0	0
	12-17	2.0-10	7.4-8.4	5-15	0	0.0-2.0	0
	17-19	---	---	---	0	---	---
	>19	---	---	---	0	---	---
73:							
Kinley	0-2	0.0-10	7.4-8.4	1-10	0	0	0
	2-9	5.0-15	7.4-8.4	1-10	0	0	0
	9-13	5.0-15	7.4-8.4	5-35	0	0	0
	13-24	5.0-15	7.4-8.4	5-35	0	0	0
	24-34	5.0-15	7.4-8.4	30-40	0	0	0
	34-50	5.0-15	7.4-8.4	30-40	0	0	0
	50-60	5.0-15	7.4-8.4	30-40	0	0	0
74:							
Kurstan family	0-2	5.0-10	7.9-8.4	5-10	0	0.0-2.0	0-2
	2-19	5.0-10	7.9-8.4	5-10	0	0.0-2.0	0-2
	19-45	5.0-10	7.9-9.0	15-30	0	0.0-2.0	0-2
	45-60	5.0-10	8.4-9.0	15-20	0	0.0-20.0	0-2
Dusty	0-2	2.0-10	7.9-8.4	1-5	0	0.0-2.0	0
	2-6	2.0-10	7.9-8.4	1-5	0	0.0-2.0	0
	6-10	2.0-10	7.9-8.4	1-10	0	0.0-2.0	13-20
	10-19	10-20	8.5-9.0	15-25	0	0.0-2.0	13-20
	19-24	10-20	8.5-9.0	10-25	0	0.0-2.0	0-13
	24-31	10-20	8.5-9.0	10-25	0	0.0-2.0	0-13
	31-50	10-20	7.9-8.4	15-50	0	0.0-2.0	0
	50-60	2.0-10	7.9-8.4	5-15	0	0.0-2.0	0
75:							
Lampshire	0-1	5.0-15	6.6-7.8	0	0	0	0
	1-6	5.0-20	6.6-7.8	0	0	0	0
	6-17	---	---	---	0	---	---
	>17	---	---	---	0	---	---
Rock outcrop	---	---	---	---	---	---	---

Table 15.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	Inches	meq/100 g	pH	Pct	Pct	mmhos/cm	
76:							
Lostman	0-2	10-20	7.4-8.4	0-2	0	0.0-2.0	0
	2-36	10-20	7.4-8.4	10-15	0	0.0-2.0	0
	36-56	1.0-5.0	7.4-8.4	0-2	0	0.0-2.0	0
	56-60	15-25	7.4-8.4	10-15	0	0.0-2.0	0
77:							
Lostman	0-2	5.0-15	7.4-8.4	0-2	0	0.0-2.0	0
	2-42	10-20	7.4-8.4	0-2	0	0.0-2.0	0
	42-60	15-25	7.4-8.4	10-15	0	0.0-2.0	0
78:							
Luzena	0-1	5.0-15	6.6-7.3	0	0	0.0-2.0	0-13
	1-2	10-20	6.6-7.3	0	0	0.0-2.0	0-13
	2-14	20-35	6.6-7.3	0	0	0.0-2.0	0-13
	>14	---	---	---	0	---	---
Thunderbird	0-2	10-15	6.6-7.8	0-10	0	0.0-2.0	0
	2-6	10-15	6.6-7.8	0-10	0	0.0-2.0	0
	6-11	15-20	6.6-7.8	0-10	0	0.0-2.0	0
	11-24	20-25	6.6-7.8	0-10	0	0.0-2.0	0
	24-34	---	---	---	---	---	---
79:							
Lykorly	0-1	15-25	6.1-6.5	0-15	0	0.0-2.0	0
	1-2	10-25	6.1-6.5	0-15	0	0.0-2.0	0-2
	2-4	10-25	6.1-6.5	0-15	0	0.0-2.0	0-2
	4-11	10-25	6.1-6.5	0-15	0	0.0-2.0	0
	11-25	10-25	6.6-7.3	0-15	0	0.0-2.0	0
	25-31	10-25	7.4-7.8	0-15	0	0.0-2.0	0
	31-44	10-25	7.9-8.4	0-15	0	0.0-2.0	0
	44-60	10-35	7.4-7.8	0-15	0	0.0-2.0	0
80:							
Lykorly	0-8	15-25	6.6-8.4	0-15	0	0.0-2.0	0
	8-60	15-25	6.6-8.4	0-15	0	0.0-2.0	0
81:							
Manikan	0-3	5.0-15	7.4-8.4	1-10	0	0.0-2.0	0
	3-24	10-20	7.9-9.0	1-10	0	0.0-10.0	13-30
	24-39	10-20	7.9-9.0	1-10	0	0.0-10.0	13-30
	39-60	10-25	6.6-7.8	0	0	0.0-2.0	0-2
Nuffel	0-6	15-30	6.6-7.8	0-2	0	0.0-2.0	0-13
	6-14	15-30	6.6-7.8	0-2	0	0.0-2.0	0-13
	14-25	10-20	6.2-7.8	0-2	0	0.0-2.0	0-13
	25-60	15-30	6.6-7.8	0-2	0	0.0-2.0	0-13
82:							
Mathis family	0-2	5.0-15	6.6-8.4	2-5	0	0.0-2.0	0
	2-60	0.0-10	6.6-8.4	2-5	0	0.0-2.0	0
Riverwash	---	---	---	---	---	---	---

Table 15.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	Inches	meq/100 g	pH	Pct	Pct	mmhos/cm	
83:							
Mayswell	0-2	10-20	6.6-8.4	0-10	0	0	0
	2-4	10-20	6.6-8.4	0-10	0	0	0
	4-9	10-20	6.6-8.4	0-10	0	0	0
	9-19	15-25	6.6-8.4	0-10	0	0	0
	>19	---	---	---	0	---	---
Rock outcrop	---	---	---	---	---	---	---
84:							
Meadview	0-2	10-20	7.4-8.4	5-20	0	0.0-2.0	0
	2-9	10-20	7.4-8.4	15-30	0	0.0-2.0	0
	9-21	10-20	7.4-8.4	15-30	0	0.0-2.0	0
	21-36	1.0-5.0	7.4-8.4	5-20	0	0.0-2.0	0
	36-60	1.0-5.0	7.4-8.4	5-15	0	0.0-2.0	0
85:							
Meadview	0-2	2.0-10	7.4-8.4	5-15	0	0	0
	2-10	2.0-10	7.4-8.4	15-30	0	0	0
	10-21	2.0-10	7.4-8.4	15-30	0	0	0
	21-31	1.0-5.0	7.4-8.4	1-10	0	0	0
	31-42	1.0-5.0	7.4-8.4	1-10	0	0	0
	42-52	1.0-5.0	7.4-8.4	1-10	0	0	0
	52-60	1.0-5.0	7.4-8.4	1-10	0	0	0
Yurm family	0-2	1.0-5.0	7.9-8.4	10-15	0	0.0-2.0	0-13
	2-11	1.0-5.0	7.9-8.4	10-15	0	0.0-2.0	0-13
	>11	---	---	---	0	---	---
86:							
Meriwhitica	0-1	5.0-20	7.9-8.4	10-15	0	0	0
	1-6	5.0-20	7.9-8.4	10-25	0	0	0
	>6	---	---	---	0	---	---
Rock outcrop	---	---	---	---	---	---	---
87:							
Mextank	0-2	1.0-5.0	7.9-8.4	1-2	0	0.0-2.0	0-13
	2-11	5.0-15	7.9-8.4	1-2	0	0.0-2.0	0-13
	11-28	5.0-10	7.9-8.4	5-15	0	0.0-2.0	0-13
	28-46	5.0-10	7.9-8.4	10-20	0	0.0-2.0	0-13
	46-60	5.0-10	7.9-8.4	15-30	0	0.0-2.0	0-13
88:							
Milkweed	0-2	10-20	7.4-8.4	20-35	0	0.0-2.0	0
	2-11	5.0-20	7.9-8.4	30-40	0	0.0-2.0	0
	11-28	---	---	---	---	---	---
	28-60	---	---	---	---	---	---
Quartermaster	0-2	10-20	7.4-8.4	10-20	0	0.0-2.0	0
	2-19	10-20	7.4-8.4	15-30	0	0.0-2.0	0
	19-26	5.0-10	7.9-8.4	15-40	0	0.0-2.0	0
	26-36	---	---	---	---	---	---

Table 15.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	Inches	meq/100 g	pH	Pct	Pct	mmhos/cm	
88:							
Buckndoe	0-2	10-20	7.4-8.4	10-25	0	0.0-2.0	0
	2-16	10-20	7.4-8.4	10-25	0	0.0-2.0	0
	16-26	5.0-10	7.4-8.4	20-35	0	0.0-2.0	0
	26-42	5.0-10	7.4-8.4	20-40	0	0.0-2.0	0
	42-52	---	---	---	---	---	---
89:							
Milok	0-2	5.0-15	7.9-9.0	10-25	0	0.0-2.0	0
	2-6	5.0-15	7.9-9.0	10-30	0	0.0-2.0	0
	6-25	5.0-15	7.9-9.0	10-30	0	0.0-2.0	0
	25-37	5.0-15	7.9-9.0	15-40	0	0.0-2.0	0
	37-60	5.0-15	7.9-9.0	10-30	0	0.0-2.0	0
Pastern	0-2	2.0-5.0	7.9-9.0	10-15	0	0	0
	2-11	2.0-5.0	7.9-9.0	5-25	0	0	0
	11-21	---	---	---	0	---	---
	21-60	2.0-5.0	7.9-9.0	5-25	0	0	0
90:							
Mutang	0-1	10-20	6.6-8.4	0	0	0.0-2.0	0
	1-5	15-25	7.4-8.4	0	0	0.0-2.0	0
	5-15	20-30	6.6-7.3	0	0	0.0-2.0	0-2
	15-22	---	---	---	---	---	---
	>22	---	---	---	---	---	---
Dutchflat	0-4	5.0-15	7.4-7.8	0	0	0.0-2.0	0
	4-37	10-20	7.4-7.8	0	0	0.0-2.0	0
	37-60	5.0-15	7.4-8.4	1-10	0	0.0-2.0	0
91:							
Mutang	0-1	10-20	6.6-8.4	0	0	0.0-2.0	0
	1-5	15-25	7.4-8.4	0	0	0.0-2.0	0
	5-15	20-30	6.6-7.3	0	0	0.0-2.0	0-2
	15-22	---	---	---	---	---	---
	>22	---	---	---	---	---	---
Wikieup	0-3	5.0-10	6.6-7.4	0	0	0	0
	3-7	2.0-10	6.6-7.4	0	0	0	0
	7-9	---	---	---	---	---	---
	>9	---	---	---	---	---	---
Rock outcrop	---	---	---	---	---	---	---
92:							
Nealy	0-2	5.0-15	7.4-8.4	1-5	0	0.0-2.0	0
	2-5	15-25	7.4-8.4	1-5	0	0.0-2.0	0-2
	5-17	15-25	7.4-8.4	10-15	0	0.0-2.0	0-2
	17-23	15-25	7.4-8.4	15-30	0	0.0-2.0	0-2
	23-60	---	---	---	0	---	---
Shamock family	0-3	2.0-10	7.9-9.0	0-10	0	0.0-2.0	0
	3-23	2.0-10	7.9-9.0	15-25	0	0.0-2.0	0
	23-60	---	---	---	0	---	---

Table 15.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	Inches	meq/100 g	pH	Pct	Pct	mmhos/cm	
93:							
Nealy	0-2	5.0-15	7.4-8.4	7-14	0	0.0-2.0	0
	2-14	5.0-15	7.4-8.4	7-14	0	0.0-2.0	0
	14-33	10-25	7.4-8.4	15-25	0	0.0-2.0	0
	33-48	---	---	---	0	---	---
	48-60	0.0-5.0	7.4-8.4	2-25	0	0.0-2.0	0
Skelon family	0-2	5.0-10	7.4-8.4	5-10	0	0.0-2.0	0-13
	2-10	10-20	7.4-8.4	10-30	0	0.0-2.0	0-2
	10-36	5.0-10	7.4-8.4	15-30	0	0.0-2.0	0-13
	36-54	---	---	---	0	---	---
	54-60	2.0-5.0	7.4-8.4	10-15	0	0.0-2.0	0-2
Detrital	0-2	2.0-10	7.4-8.4	3-10	0	0.0-2.0	0
	2-17	2.0-10	7.4-8.4	3-14	0	0.0-2.0	0
	17-34	2.0-10	7.4-8.4	3-14	0	0.0-2.0	0
	34-60	2.0-10	7.4-8.4	3-14	0	0.0-2.0	0
94:							
Nickel family	0-2	2.0-10	7.4-8.4	0	0	0.0-2.0	0
	2-7	5.0-15	7.9-8.4	0	0	0.0-2.0	0
	7-25	5.0-15	7.9-8.4	10-15	0	0.0-2.0	0
	25-35	2.0-10	7.4-8.4	15-30	0	0.0-2.0	0
	35-60	5.0-15	7.9-8.4	10-15	0	0.0-2.0	0
Bluebird	0-2	10-20	7.4-8.4	0	0	0.0-2.0	0
	2-16	10-20	7.4-8.4	0	0	0.0-2.0	0
	16-42	2.0-10	7.4-8.4	0	0	0.0-2.0	0
	42-60	10-20	7.4-8.4	0	0	0.0-2.0	0
95:							
Nickel	0-2	2.0-10	7.4-8.4	5-10	0	0.0-2.0	0
	2-5	2.0-10	7.4-8.4	5-15	0	0.0-2.0	0
	5-36	2.0-10	7.4-8.4	15-25	0	0.0-2.0	0
	36-60	0.0-10	7.4-8.4	5-15	0	0.0-2.0	0
Skelon family	0-2	5.0-15	7.4-8.0	10-15	0	0.0-2.0	0
	2-15	5.0-15	7.4-8.0	10-15	0	0.0-2.0	0
	15-35	5.0-10	7.4-8.4	15-30	0	0.0-2.0	0
	35-60	---	---	---	0	---	---
Detrital	0-1	2.0-10	7.4-8.4	3-10	0	0.0-2.0	0
	1-60	2.0-10	7.4-8.4	3-14	0	0.0-2.0	0
96:							
Nickel family	0-3	0.0-10	7.4-8.4	1-10	0	0	0
	3-7	10-20	7.4-8.4	10-25	0	0	0
	7-26	2.0-10	7.4-8.4	15-30	0	0	0
	26-60	2.0-10	7.4-8.4	15-30	0	0	0
Topawa family	0-3	0.0-10	6.6-7.8	0	0	0	0
	3-18	10-20	6.6-7.8	0	0	0	0
	18-50	2.0-10	6.6-7.8	0	0	0	0
	50-58	0.0-10	6.6-7.8	0	0	0	0
	58-60	2.0-10	7.4-8.4	0-20	0	0	0

Table 15.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	Inches	meq/100 g	pH	Pct	Pct	mmhos/cm	
96:							
Eba family	0-1	2.0-10	6.6-7.8	0	0	0	0
	1-8	15-35	6.6-7.8	0	0	0	0
	8-32	15-35	6.6-7.8	0	0	0	0
	32-52	15-35	6.6-7.8	0	0	0	0
	52-60	2.0-10	7.4-8.4	15-25	0	0	0
97:							
Nodman	0-2	5.0-15	7.9-8.4	10-15	0	0.0-2.0	0-13
	2-15	10-25	7.9-8.4	10-15	0	0.0-2.0	0-13
	15-39	---	---	---	0	---	---
	>39	---	---	---	0	---	---
Antares	0-2	2.0-10	7.4-8.4	5-10	0	0.0-2.0	0
	2-10	2.0-10	7.4-8.4	5-10	0	0.0-2.0	0
	10-40	---	---	---	0	---	---
	>40	---	---	---	0	---	---
98:							
Nodman	0-2	6.0-12	5.6-7.3	0-2	0-2	0.0-2.0	0-13
	2-9	9.0-22	5.6-7.3	0-2	0-2	0.0-2.0	0-13
	9-12	9.0-22	5.6-7.3	0-2	0-2	0.0-2.0	0-13
	12-60	---	---	---	0	---	---
Courtland family	0-1	6.0-12	6.6-7.3	0-2	0-2	0.0-2.0	0-13
	1-14	9.0-22	6.6-8.4	0-2	0-2	0.0-2.0	0-13
	14-19	9.0-22	5.6-6.0	0-2	0-2	0.0-2.0	0-13
	19-29	9.0-22	5.6-6.0	0-2	0-2	0.0-2.0	0-13
	>29	---	---	---	0	---	---
99:							
Nodman	0-2	5.0-12	5.6-6.0	0-2	0-2	0.0-2.0	0-13
	2-10	10-22	5.6-7.3	0-2	0-2	0.0-2.0	0-13
	10-17	---	---	---	0	---	---
	17-60	---	---	---	0	---	---
Rock outcrop	---	---	---	---	---	---	---
100:							
Nodman	0-1	4.0-10	5.6-6.0	0-2	0-2	0.0-2.0	0-13
	1-6	3.0-9.0	6.1-6.5	0-2	0-2	0.0-2.0	0-13
	6-12	9.0-22	6.6-7.3	0-2	0-2	0.0-2.0	0-13
	12-60	---	---	---	0	---	---
Romero family	0-2	5.0-11	5.6-6.0	0-2	0-2	0.0-2.0	0-13
	2-7	4.0-10	6.6-7.8	0-5	0-2	0.0-2.0	0-13
	7-21	---	---	---	0	---	---
	>21	---	---	---	0	---	---
101:							
Nolam family	0-2	6.0-12	6.1-8.4	0-2	0-2	0.0-2.0	0-13
	2-9	15-21	5.6-8.4	0-2	0-2	0.0-2.0	0-13
	9-22	10-18	5.6-8.4	0-2	0-2	0.0-2.0	0-13
	22-32	10-18	6.1-8.4	0-2	0-2	0.0-2.0	0-13
	32-41	5.0-9.0	7.9-8.4	0-2	0-2	0.0-2.0	0-13
	41-60	10-18	7.9-9.0	15-40	0-2	0.0-2.0	0-13

Table 15.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	Inches	meq/100 g	pH	Pct	Pct	mmhos/cm	
101:							
Ustalfic Petrocalcids	0-1	5.0-11	5.6-7.3	0-2	0-2	0.0-2.0	0-13
	1-4	9.0-20	6.1-7.8	0-2	0-2	0.0-2.0	0-13
	4-13	12-21	6.1-7.8	0-2	0-2	0.0-2.0	0-13
	13-26	9.0-21	6.1-7.8	0-2	0-2	0.0-2.0	0-13
	26-38	2.0-12	6.1-7.8	0-2	0-2	0.0-2.0	0-13
	38-60	---	---	---	0	---	---
Caralampi family-----	0-2	10-17	6.6-7.3	0-2	0-2	0.0-2.0	0-13
	2-9	15-21	6.1-6.5	0-2	0-2	0.0-2.0	0-13
	9-30	8.0-18	5.6-6.0	0-2	0-2	0.0-2.0	0-13
	30-50	3.0-10	5.6-6.0	0-2	0-2	0.0-2.0	0-13
	50-60	3.0-9.0	5.6-6.0	0-2	0-2	0.0-2.0	0-13
102:							
Ohaco family---------	0-3	5.0-15	7.4-8.4	0	0	0.0-2.0	0-2
	3-6	15-30	7.4-8.4	0	0	0.0-2.0	0-2
	6-15	15-40	7.4-8.4	0	0	0.0-2.0	0-2
	15-20	10-20	7.4-8.4	1-5	0	0.0-2.0	0-2
	20-35	5.0-20	7.4-8.4	1-5	0	0.0-2.0	0-2
	35-60	---	---	---	0	---	---
Bluebird----------	0-2	10-20	7.4-8.4	0	0	0.0-2.0	0
	2-16	10-20	7.4-8.4	0	0	0.0-2.0	0
	16-42	2.0-10	7.4-8.4	0	0	0.0-2.0	0
	42-60	10-20	7.4-8.4	0	0	0.0-2.0	0
103:							
Orejano----------	0-2	5.0-20	6.6-7.3	0	0	0	0
	2-7	20-40	6.6-7.3	0	0	0	0-2
	7-12	15-35	6.6-7.3	0	0	0	0
	12-18	5.0-15	6.6-7.3	0	0	0	0
	18-28	5.0-10	6.6-7.3	0	0	0	0
	28-60	1.0-5.0	6.6-7.3	0	0	0	0
104:							
Pantak family--------	0-2	6.0-17	6.6-8.4	0-5	0-2	0.0-2.0	0-13
	2-12	10-22	6.6-8.4	0-10	0-2	0.0-2.0	0-13
	>12	---	---	---	0	---	---
Taine----------	0-2	10-23	6.6-7.3	0-5	0-2	0.0-2.0	0-13
	2-7	13-25	6.6-7.3	0-10	0-2	0.0-2.0	0-13
	7-19	15-25	7.4-8.4	0-10	0-2	0.0-2.0	0-13
	>19	---	---	---	0	---	---
Terino family--------	0-2	10-17	7.4-7.8	0-5	0-2	0.0-2.0	0-13
	2-10	8.0-15	6.6-7.3	0-5	0-2	0.0-2.0	0-13
	10-17	13-26	7.4-8.4	0-5	0-2	0.0-2.0	0-13
	17-23	---	---	---	0	---	---
	23-35	---	---	---	0	---	---
	>35	---	---	---	0	---	---

Table 15.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	Inches	meq/100 g	pH	Pct	Pct	mmhos/cm	
105:							
Pastern	0-2	2.0-5.0	7.9-9.0	0-15	0	0	0
	2-11	2.0-5.0	7.9-9.0	5-25	0	0	0
	11-21	---	---	---	0	---	---
	21-60	2.0-5.0	7.9-9.0	5-25	0	0	0
Strych	0-2	5.0-15	7.4-9.0	5-20	0	0.0-2.0	0
	2-7	5.0-15	7.4-9.0	5-20	0	0.0-2.0	0
	7-27	5.0-15	7.4-9.0	15-30	0	0.0-2.0	0
	27-60	5.0-15	7.4-9.0	10-20	0	0.0-2.0	0
106:							
Peachsprings	0-3	5.0-15	7.4-7.8	15-30	0	0.0-2.0	0
	3-8	6.0-15	7.4-8.4	15-35	0	0.0-2.0	0
	8-21	10-20	7.9-8.4	15-35	0	0.0-2.0	0
	21-32	10-20	7.4-8.4	15-35	0	0	0
	32-43	5.0-10	7.4-8.4	15-35	0	0.0-2.0	0
	43-64	5.0-15	7.4-8.4	15-35	0	0.0-3.0	0
Havasupai	0-2	5.0-15	7.4-7.8	10-20	0	0.0-2.0	0
	2-7	5.0-20	7.4-7.8	10-20	0	0.0-2.0	0
	7-15	10-20	7.4-8.4	25-45	0	0.0-2.0	0
	15-25	---	---	---	0	---	---
	25-60	5.0-10	7.4-8.4	20-40	0	0.0-2.0	0
107:							
Pearce	0-2	2.0-10	7.4-8.4	5-35	0	0	0
	2-7	2.0-10	7.4-8.4	5-35	0	0	0
	>7	---	---	---	0	---	---
108:							
Pearce	0-2	5.0-10	7.4-8.4	5-35	0	0.0-2.0	0-13
	2-13	5.0-15	7.4-8.4	10-35	0	0.0-2.0	0-13
	>13	---	---	---	0	---	---
Detrital	0-2	5.0-10	7.4-8.4	10-15	0	0.0-2.0	0-2
	2-13	10-25	7.4-8.4	15-30	0	0.0-2.0	0-2
	13-24	5.0-10	7.4-8.4	15-30	0	0.0-2.0	0-2
	24-35	10-20	7.4-8.4	15-30	0	0.0-2.0	0
	35-60	10-20	7.4-8.4	15-30	0	0.0-2.0	0
Rock outcrop	---	---	---	---	---	---	---
109:							
Pearce	0-2	10-20	7.4-8.4	5-35	0	0.0-2.0	0-2
	2-5	10-20	7.4-8.4	5-35	0	0.0-2.0	0-2
	>5	---	---	---	0	---	---
Rock outcrop	---	---	---	---	---	---	---
110:							
Pedregosa family	0-2	6.0-11	7.9-8.4	15-30	0-2	0.0-2.0	0-13
	2-6	4.0-10	7.9-8.4	15-30	0-2	0.0-2.0	0-13
	6-13	4.0-10	7.9-8.4	15-30	0-2	0.0-2.0	0-13
	>13	---	---	---	0	---	---

Table 15.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	Inches	meq/100 g	pH	Pct	Pct	mmhos/cm	
110:							
Tombstone family-----	0-3	4.0-10	7.9-8.4	10-25	0-2	0.0-2.0	0-13
	3-19	3.0-9.0	7.9-8.4	15-50	0-2	0.0-2.0	0-13
	19-34	3.0-9.0	7.9-8.4	15-50	0-2	0.0-2.0	0-13
	34-44	3.0-9.0	7.9-8.4	15-50	0-2	0.0-2.0	0-13
	44-50	3.0-9.0	7.9-8.4	15-50	0-2	0.0-2.0	0-13
	50-60	---	---	---	0	---	---
111:							
Pidineen family------	0-2	10-20	7.9-8.4	0-2	0	0.0-2.0	0
	2-5	10-20	7.9-8.4	0-2	0	0.0-2.0	0
	5-14	5.0-15	7.9-8.4	10-15	0	0.0-2.0	0
	14-19	10-20	7.9-8.4	15-30	0	0.0-2.0	0
	>19	---	---	---	---	---	---
Tricon family--------	0-2	10-25	7.4-8.4	0	0	0	0
	2-8	10-35	7.4-7.8	0	0	0	0
	8-16	10-35	7.4-7.8	0	0	0	0
	16-21	10-35	7.4-8.4	0-5	0	0	0
	>21	---	---	---	---	---	---
112:							
Pits-dumps, mine-----	---	---	---	---	---	---	---
113:							
Playa----------	---	---	---	---	---	---	---
114:							
Prieta----------	0-2	5.0-15	7.4-7.9	0	0	0	0
	2-4	15-20	7.4-7.9	0	0	0	0
	4-12	15-25	7.4-7.9	0	0	0	0
	12-14	---	---	---	0	---	---
	>14	---	---	---	0	---	---
Rock outcrop---------	---	---	---	---	---	---	---
115:							
Quagwa----------	0-2	10-20	7.4-7.8	2-10	0	0.0-2.0	0
	2-5	10-15	7.4-7.8	2-10	0	0.0-2.0	0
	5-14	10-15	7.4-7.8	2-10	0	0.0-2.0	0
	14-30	10-20	7.4-7.8	2-14	0	0.0-2.0	0
	30-50	10-20	7.4-7.8	2-14	0	0.0-2.0	0
	50-62	10-20	7.4-7.8	2-14	0	0.0-2.0	0
116:							
Razorback----------	0-2	2.0-10	7.4-8.4	1-15	0	0	0
	2-5	5.0-20	6.6-7.8	0	0	0	0
	>5	---	---	---	0	---	---
117:							
Razorback----------	0-2	2.0-10	7.4-8.4	2-10	0	0	0
	2-15	2.0-10	7.4-8.4	5-10	0	0	0
	15-25	---	---	---	---	---	---

Table 15.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	Inches	meq/100 g	pH	Pct	Pct	mmhos/cm	
117:							
Rock outcrop	---	---	---	---	---	---	---
118:							
Razorback	0-2	5.0-10	7.4-8.4	5-10	0	0	0
	2-5	2.0-10	7.4-8.4	5-10	0	0	0
	>5	---	---	---	0	---	---
Rock outcrop	---	---	---	---	---	---	---
119:							
Rift	0-3	10-20	7.9-9.0	1-5	0	0.0-10.0	0-30
	3-29	10-20	7.9-9.0	1-5	0	0.0-10.0	0-30
	29-51	10-25	7.9-9.0	1-5	0	0.0-10.0	0-30
	51-60	10-25	7.9-9.0	1-5	0	0.0-10.0	0-30
120:							
Rift	0-4	10-25	7.4-9.0	1-10	0	0.0-10.0	0-30
	4-16	10-25	7.4-9.0	1-10	0	0.0-10.0	13-30
	16-23	10-25	7.4-9.0	1-10	0	0.0-10.0	13-30
	23-44	10-20	8.5-9.0	1-10	0	0.0-10.0	13-30
	44-60	10-20	7.9-9.0	1-10	0	0.0-10.0	13-30
121:							
Rillino family	0-2	5.0-15	7.4-8.4	2-5	0	0.0-2.0	0
	2-11	5.0-15	7.4-8.4	5-15	0	0.0-2.0	0
	11-16	5.0-15	7.4-8.4	15-30	0	0.0-2.0	0
	16-39	5.0-15	7.4-8.4	15-30	0	0.0-2.0	0
	39-49	5.0-15	7.4-8.4	15-30	0	0.0-2.0	0
	49-60	5.0-10	7.9-8.4	15-30	0	0.0-2.0	0
Shamock family	0-2	2.0-10	7.9-9.0	0-10	0	0.0-2.0	0
	2-22	2.0-10	7.9-9.0	15-25	0	0.0-2.0	0
	22-60	---	---	---	0	---	---
Dutchflat	0-2	5.0-15	7.4-7.8	0	0	0.0-2.0	0
	2-4	5.0-15	7.4-7.8	0	0	0.0-2.0	0
	4-37	10-20	7.4-7.8	0	0	0.0-2.0	0
	37-60	5.0-15	7.4-8.4	1-10	0	0.0-2.0	0
122:							
Rock outcrop	---	---	---	---	---	---	---
Appleseed	0-2	3.0-10	7.9-8.4	5-35	0-2	0.0-5.0	0
	2-8	3.0-10	7.9-8.4	15-35	0-2	0.0-5.0	0
	>8	---	---	---	0	---	---
123:							
Rock outcrop	---	---	---	---	---	---	---
Pearce	0-1	5.0-15	7.4-8.4	5-35	0	0.0-2.0	0
	1-7	5.0-15	7.4-8.4	10-35	0	0.0-2.0	0
	>7	---	---	---	0	---	---

Table 15.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	Inches	meq/100 g	pH	Pct	Pct	mmhos/cm	
124:							
Rock outcrop	---	---	---	---	---	---	---
Razorback	0-2	2.0-10	7.4-8.4	1-15	0	0	0
	2-15	2.0-10	7.4-8.4	5-10	0	0	0
	15-25	---	---	---	---	---	---
125:							
Rock outcrop	---	---	---	---	---	---	---
Torriorthents	---	---	---	---	---	---	---
126:							
Rock outcrop	---	---	---	---	---	---	---
Torriorthents	---	---	---	---	---	---	---
127:							
Rock outcrop	---	---	---	---	---	---	---
Valena	0-2	5.0-15	7.4-8.4	0	0	0.0-3.0	0
	2-7	5.0-15	7.4-8.4	0	0	0.0-3.0	0
	7-12	10-25	7.4-8.4	0	0	0.0-3.0	0
	>12	---	---	---	0	---	---
Kopie family	0-2	6.0-15	7.4-7.8	0	0	0.0-2.0	0
	2-16	6.0-15	7.4-7.8	0	0	0.0-2.0	0
	>16	---	---	---	0	---	---
128:							
Rolie	0-1	5.0-15	7.4-8.4	5-15	0	0.0-2.0	0
	1-4	10-20	7.4-8.4	10-30	0	0.0-2.0	0
	4-9	10-20	7.4-8.4	10-30	0	0.0-2.0	0
	9-15	---	---	---	0	---	---
	15-60	---	---	---	0	---	---
Dean	0-2	5.0-15	7.4-7.8	20-40	0	0.0-2.0	0-4
	2-6	10-15	7.4-7.8	20-40	0	0.0-2.0	0-4
	6-16	10-15	7.4-7.8	20-40	0	0.0-2.0	0-4
	16-21	15-20	7.4-7.8	40-60	0	0.0-2.0	0-4
	21-28	10-15	7.4-7.8	50-70	0	0.0-2.0	0-4
	28-60	10-15	7.4-7.8	50-70	0	0.0-2.0	0-4
129:							
Romero	0-1	5.0-20	6.6-7.8	0	0	0	0
	1-6	10-25	6.6-7.8	0	0	0	0
	6-60	---	---	---	0	---	---
Chiricahua	0-1	5.0-20	6.6-7.8	0	0	0.0-2.0	0
	1-6	15-40	6.6-7.8	0	0	0.0-2.0	0
	6-14	15-40	6.6-7.8	0	0	0.0-2.0	0
	14-16	15-40	6.6-7.8	0	0	0.0-2.0	0
	16-22	---	---	---	0	---	---
	>22	---	---	---	0	---	---
Rock outcrop	---	---	---	---	---	---	---

Table 15.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	Inches	meq/100 g	pH	Pct	Pct	mmhos/cm	
130:							
Romero	0-1	5.0-20	6.6-7.8	0	0	0	0
	1-6	10-25	6.6-7.8	0	0	0	0
	6-60	---	---	---	0	---	---
Lampshire	0-1	5.0-15	6.6-7.8	0	0	0	0
	1-6	5.0-20	6.6-7.8	0	0	0	0
	6-17	---	---	---	0	---	---
	>17	---	---	---	0	---	---
Rock outcrop	---	---	---	---	---	---	---
131:							
Rositas	0-60	0.0-5.0	6.6-9.0	0-5	0	0.0-8.0	0-90
132:							
Shortbread	0-1	0.0-10	7.4-8.4	0-2	0	0	0
	1-28	0.0-10	7.4-8.4	0-2	0	0	0
	28-38	5.0-10	7.4-8.4	0-2	0	0	0
	38-60	0.0-10	7.4-8.4	0-2	0	0	0
133:							
Shortbread	0-1	0.0-10	7.4-8.4	0	0	0.0-2.0	0
	1-21	0.0-10	7.4-8.4	0	0	0.0-2.0	0
	21-30	5.0-10	7.4-8.4	0-2	0	0	0
	30-60	0.0-10	7.4-8.4	0-2	0	0	0
Kurstan family	0-2	5.0-10	7.9-8.4	5-10	0	0.0-2.0	0-2
	2-15	5.0-10	7.9-8.4	5-10	0	0.0-2.0	0-2
	15-29	5.0-10	7.9-8.4	15-30	0	0.0-2.0	0-2
	29-42	5.0-10	8.4-9.0	10-15	0	0.0-2.0	0-2
	42-60	15-25	8.4-9.4	10-15	0	0.0-2.0	0-2
Dusty	0-3	15-30	7.9-8.4	0-15	0	0.0-2.0	0-13
	3-12	10-20	8.5-9.0	5-25	0	0.0-2.0	13-20
	12-26	10-20	7.9-9.0	10-25	0	4.0-8.0	0-13
	26-56	10-20	7.9-9.0	15-25	0	2.0-4.0	0-13
	56-60	15-30	8.4-9.0	10-15	0	4.0-8.0	0-13
134:							
Skelon family	0-1	5.0-15	7.4-8.0	10-15	0	0.0-2.0	0
	1-16	5.0-15	7.4-8.0	10-15	0	0.0-2.0	0
	16-26	2.0-10	7.4-8.0	15-30	0	0.0-2.0	0
	>26	---	---	---	0	---	---
Greyeagle family	0-1	5.0-10	7.9-8.4	5-15	0	0	0
	1-9	5.0-10	7.9-8.4	10-30	0	0	0
	>9	---	---	---	0	---	---
Detrital	0-2	2.0-10	7.4-8.4	3-10	0	0.0-2.0	0
	2-60	2.0-10	7.4-8.4	3-14	0	0.0-2.0	0
135:							
Skelon family	0-2	5.0-15	7.4-8.0	10-15	0	0.0-2.0	0
	2-27	15-30	7.4-8.0	10-15	0	0.0-2.0	0
	27-60	---	---	---	0	---	---

Table 15.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	Inches	meq/100 g	pH	Pct	Pct	mmhos/cm	
135:							
Pinaleno family------	0-2	1.0-5.0	7.9-8.4	1-5	0	0.0-2.0	0-13
	2-8	5.0-15	7.9-8.4	0-2	0	0.0-2.0	0-13
	8-13	5.0-15	7.9-8.4	10-15	0	0.0-2.0	0-13
	13-60	1.0-5.0	7.9-8.4	10-25	0	0.0-2.0	0-13
136:							
Storybook----------	0-2	5.0-10	7.9-8.4	1-5	0-2	0.0-2.0	0-2
	2-25	5.0-10	7.9-8.4	5-10	0-2	0.0-2.0	0-2
	25-35	5.0-10	7.9-8.4	5-10	0	0.0-2.0	0-2
	35-60	5.0-10	7.9-9.0	5-10	0-2	0.0-2.0	0-2
137:							
Stronghold family----	0-2	2.0-8.0	7.4-8.4	15-30	0-2	0.0-2.0	0-13
	2-7	2.0-8.0	7.9-9.0	15-35	0-2	0.0-2.0	0-13
	7-31	2.0-8.0	7.9-9.0	15-35	0-2	0.0-2.0	0-13
	31-44	2.0-8.0	7.9-9.0	15-35	0-2	0.0-2.0	0-13
	44-60	2.0-8.0	7.9-9.0	15-35	0-2	0.0-2.0	0-13
McAllister family----	0-2	6.0-12	6.8-8.4	0	0-2	0.0-2.0	0-13
	2-12	8.0-21	6.6-8.4	0	0-2	0.0-2.0	0-13
	12-26	8.0-21	8.5-9.0	10-15	0-2	0.0-2.0	0-13
	26-37	3.0-10	7.9-8.4	10-15	0-2	0.0-2.0	0-13
	37-53	3.0-10	8.5-9.0	15-30	0-2	0.0-2.0	0-13
	53-60	3.0-10	7.9-8.4	10-25	0-2	0.0-2.0	0-13
138:							
Sunrock----------	0-2	2.0-10	7.4-8.4	1-15	0	0	0
	2-5	2.0-10	7.4-8.4	1-15	0	0	0
	>5	---	---	---	0	---	---
139:							
Sunrock----------	0-5	2.0-10	7.4-8.4	1-3	0	0	0
	5-7	2.0-10	7.4-8.4	1-3	0	0	0
	>7	---	---	---	0	---	---
Rock outcrop---------	---	---	---	---	---	---	---
140:							
Superstition family--	0-1	0.0-5.0	7.4-8.4	1-5	0	0.0-2.0	0-13
	1-7	0.0-5.0	7.4-8.4	10-15	0	0.0-2.0	0-13
	7-23	5.0-10	7.4-8.4	15-30	0	0.0-2.0	0-13
	23-60	5.0-10	7.4-8.4	0	0	0.0-2.0	0-13
Carrwash----------	0-4	0.0-10	7.4-8.4	2-10	0	0.0-2.0	0
	4-60	0.0-5.0	7.4-8.4	2-10	0	0.0-2.0	0
141:							
Taine----------	0-2	10-20	7.4-7.8	0	0	0	0
	2-5	10-20	7.4-7.8	0	0	0	0
	5-11	20-25	7.4-7.8	0	0	0	0
	11-15	15-35	7.4-7.8	0	0	0	0
	>15	---	---	---	---	---	---

Table 15.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	Inches	meq/100 g	pH	Pct	Pct	mmhos/cm	
142:							
Thimble	0-2	10-25	7.4-7.8	1-10	0	0	0
	2-10	20-25	7.4-7.8	1-10	0	0	0
	10-15	---	---	---	0	---	---
	>15	---	---	---	0	---	---
Rock outcrop	---	---	---	---	---	---	---
143:							
Tombstone family	0-2	4.0-11	7.9-8.4	2-5	0-2	0.0-2.0	0-13
	2-16	3.0-10	7.9-8.4	10-15	0-2	0.0-2.0	0-13
	16-46	3.0-10	7.9-8.4	15-35	0-2	0.0-2.0	0-13
	46-60	3.0-10	7.9-8.4	15-25	0-2	0.0-5.0	0-13
Caralampi family	0-2	4.0-10	5.6-7.8	0-2	0-2	0.0-2.0	0-13
	2-6	3.0-9.0	5.6-7.8	0-2	0-2	0.0-2.0	0-13
	6-21	9.0-21	5.6-7.8	0-2	0-2	0.0-2.0	0-13
	21-32	9.0-21	5.6-7.8	0-2	0-2	0.0-2.0	0-13
	32-60	3.0-9.0	7.4-8.4	2-5	0-2	0.0-2.0	0-13
Nolam family	0-2	4.0-10	6.1-8.4	10-15	0-2	0.0-2.0	0-13
	2-5	3.0-9.0	6.1-8.4	10-15	0-2	0.0-2.0	0-13
	5-18	9.0-21	5.6-8.4	15-30	0-2	0.0-2.0	0-13
	18-24	9.0-21	5.6-8.4	15-30	0-2	0.0-2.0	0-13
	24-30	3.0-9.0	7.9-9.0	15-40	0-2	0.0-2.0	0-13
	30-60	3.0-9.0	7.9-9.0	15-40	0-2	0.0-2.0	0-13
144:							
Torriorthents	---	---	---	---	---	---	---
145:							
Torriorthents	---	---	---	---	---	---	---
Haplocambids	---	---	---	---	---	---	---
146:							
Torriorthents	---	---	---	---	---	---	---
Rock outcrop	---	---	---	---	---	---	---
147:							
Tovar	0-1	20-35	6.6-7.3	0	0	0.0-2.0	0-2
	1-4	20-35	6.6-7.3	0	0	0.0-2.0	0-2
	4-7	20-35	6.6-7.3	0	0	0.0-2.0	0-2
	7-10	20-30	6.6-7.3	0	0	0.0-2.0	0-2
	10-29	20-40	7.4-7.8	0	0	0.0-2.0	0-2
	>29	---	---	---	0	---	---
Grandwash	0-2	5.0-20	6.6-7.3	0	0	0.0-2.0	0-2
	2-7	15-20	6.6-7.3	0	0	0.0-2.0	0-2
	7-17	15-40	6.6-7.3	0	0	0.0-2.0	0-2
	>17	---	---	---	0	---	---

Table 15.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	Inches	meq/100 g	pH	Pct	Pct	mmhos/cm	
148:							
Truxton	0-2	5.0-15	7.4-8.4	0	0	0.0-2.0	0
	2-5	5.0-20	7.4-8.4	0	0	0.0-2.0	0
	5-34	5.0-20	7.4-8.4	0	0	0.0-2.0	0
	34-60	5.0-20	7.4-8.4	0	0	0.0-2.0	0
Truxton, frequently flooded	0-1	5.0-15	7.4-8.4	0	0	0.0-2.0	0
	1-60	5.0-20	7.4-8.4	0	0	0.0-2.0	0
149:							
Tumarion	0-3	8.0-15	7.9-8.4	10-15	0	0.0-4.0	0
	3-10	6.0-15	7.9-8.4	25-30	0	0.0-4.0	0
	10-12	---	---	---	0	---	---
	>12	---	---	---	0	---	---
150:							
Tumarion	0-2	10-15	7.9-8.4	1-5	0	0	0
	2-15	20-30	7.9-8.4	10-30	0	0	0
	15-19	---	---	---	0	---	---
	>19	---	---	---	0	---	---
Nickel family	0-4	5.0-10	7.4-8.4	0	0	0.0-2.0	0-13
	4-23	10-25	7.4-8.4	0-2	0	0.0-2.0	0
	23-51	5.0-20	7.4-8.4	15-35	0	0.0-2.0	0-2
	51-60	20-30	7.4-8.4	15-35	0	0.0-2.0	0-2
151:							
Tumarion	0-2	0.0-5.0	7.4-8.4	0-10	0	0.0-2.0	0-13
	2-16	0.0-5.0	7.4-8.4	0-10	0	0.0-2.0	0-13
	16-19	---	---	---	0	---	---
	>19	---	---	---	0	---	---
Nickel family	0-4	5.0-10	7.4-8.4	0	0	0.0-2.0	0-13
	4-23	10-25	7.4-8.4	0-2	0	0.0-2.0	0
	23-51	5.0-20	7.4-8.4	15-35	0	0.0-2.0	0-2
	51-60	20-30	7.4-8.4	15-35	0	0.0-2.0	0-2
152:							
Tyro	0-2	2.0-10	7.4-8.4	5-15	0	0.0-2.0	0
	2-11	2.0-10	7.4-8.4	15-40	0	0.0-2.0	0
	11-18	---	---	---	0	---	---
	>18	---	---	---	0	---	---
153:							
Tyro	0-1	2.0-10	7.4-8.4	5-15	0	0.0-2.0	0
	1-6	2.0-10	7.4-8.4	5-15	0	0.0-2.0	0
	6-9	2.0-10	7.4-8.4	15-40	0	0.0-2.0	0
	9-14	---	---	---	0	---	---
	>14	---	---	---	0	---	---
154:							
Tyro	0-2	5.0-10	7.4-8.4	10-20	0	0.0-2.0	0-2
	2-8	5.0-10	7.4-8.4	15-30	0	0.0-2.0	0-2
	8-10	5.0-10	7.4-8.4	15-40	0	0.0-2.0	0-2
	10-60	---	---	---	0	---	---

Table 15.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	Inches	meq/100 g	pH	Pct	Pct	mmhos/cm	
154:							
Sunrock	0-2	2.0-10	7.4-8.4	1-3	0	0	0
	2-5	2.0-10	7.4-8.4	5-15	0	0	0
	>5	---	---	---	0	---	---
155:							
Urban land	---	---	---	---	---	---	---
Calvista family	0-2	5.0-15	7.4-8.4	10-20	0	0.0-2.0	0
	2-10	5.0-15	7.4-8.4	15-30	0	0.0-2.0	0
	>10	---	---	---	0	---	---
156:							
Ustorthents	---	---	---	---	---	---	---
Rock outcrop	---	---	---	---	---	---	---
157:							
Valena	0-2	5.0-15	7.4-8.4	0	0	0.0-3.0	0
	2-7	5.0-15	7.4-8.4	0	0	0.0-3.0	0
	7-12	10-25	7.4-8.4	0	0	0.0-3.0	0
	>12	---	---	---	0	---	---
Carri	0-2	5.0-15	7.4-8.4	0	0	0.0-2.0	0
	2-9	5.0-15	7.4-8.4	0	0	0.0-2.0	0
	9-21	10-25	7.4-8.4	0	0	0.0-2.0	0
	21-27	10-25	7.4-8.4	0	0	0.0-2.0	0
	>27	---	---	---	0	---	---
158:							
Valena	0-2	5.0-15	7.4-8.4	0	0	0.0-3.0	0
	2-7	5.0-15	7.4-8.4	0	0	0.0-3.0	0
	7-12	10-25	7.4-8.4	0	0	0.0-3.0	0
	>12	---	---	---	0	---	---
Rock outcrop	---	---	---	---	---	---	---
Carri family	0-2	10-20	6.6-7.3	0	0	0	0
	2-34	10-25	6.6-7.3	0	0	0	0
	34-44	2.0-10	6.6-7.3	0	0	0	0
	44-60	5.0-15	6.6-7.3	0	0	0	0-2
159:							
Vekol family	0-4	0.0-10	7.4-8.4	2-10	0	0	0
	4-10	2.0-10	7.4-8.4	2-10	0	0	0
	10-26	15-35	7.4-8.4	2-10	0	0	0
	26-40	10-20	7.4-7.8	2-10	0	0	0
	40-60	0.0-5.0	7.4-7.8	2-10	0	0	0
160:							
Vekol family	0-3	10-25	7.4-8.4	0	0	0	0
	3-21	15-40	7.4-8.4	0-15	0	0	0
	21-45	15-40	7.4-8.4	10-15	0	0	0
	45-57	10-25	7.4-8.4	10-15	0	0	0
	57-60	15-25	7.4-8.4	15-30	0	0.0-2.0	0-2

Table 15.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	Inches	meq/100 g	pH	Pct	Pct	mmhos/cm	
161:							
Vekol family	0-2	15-20	7.4-8.4	5-15	0	0	0
	2-39	15-40	7.4-8.4	5-15	0	0	0
	39-60	25-50	7.4-8.4	5-15	0	0	0
Whitehills	0-2	2.0-10	7.4-8.4	2-10	0	0	0
	2-7	2.0-10	7.4-8.4	5-10	0	0	0
	7-19	10-20	7.4-8.4	10-15	0	0	0
	19-27	2.0-10	7.4-8.4	15-30	0	0	0
	>27	---	---	---	0	---	---
162:							
Vock	0-6	5.0-15	7.4-8.4	0	0	0.0-2.0	0
	6-11	5.0-15	7.4-8.4	0	0	0.0-2.0	0
	11-16	5.0-15	7.4-8.4	0	0	0.0-2.0	0
	>16	---	---	---	0	---	---
Elements	0-5	5.0-15	7.4-8.4	0	0	0.0-2.0	0
	5-11	5.0-15	7.4-8.4	0	0	0.0-2.0	0
	11-52	5.0-15	7.4-8.4	0	0	0.0-2.0	0
	52-60	5.0-15	7.4-8.4	0	0	0.0-2.0	0
Rock outcrop	---	---	---	---	---	---	---
163:							
Vock	0-1	5.0-15	7.4-8.4	0	0	0.0-2.0	0
	1-6	5.0-15	7.4-8.4	0	0	0.0-2.0	0
	6-10	5.0-15	7.4-8.4	0	0	0.0-2.0	0
	10-60	---	---	---	0	---	---
Elements	0-5	5.0-15	7.4-8.4	0	0	0.0-2.0	0
	5-11	5.0-15	7.4-8.4	0	0	0.0-2.0	0
	11-52	5.0-15	7.4-8.4	0	0	0.0-2.0	0
	52-60	5.0-15	7.4-8.4	0	0	0.0-2.0	0
Rock outcrop	---	---	---	---	---	---	---
164:							
Water	---	---	---	---	---	---	---
165:							
White House	0-1	0.0-15	6.6-7.8	0	0	0	0
	1-5	10-25	6.6-7.8	0-10	0	0	0
	5-23	20-40	6.6-7.8	0-10	0	0	0
	23-42	10-25	6.6-7.8	2-10	0	0	0
	42-60	0.0-15	6.6-7.8	2-10	0	0	0
166:							
White House family	0-1	0.0-15	7.4-8.4	2-10	0	0	0
	1-15	10-25	7.4-8.4	2-10	0	0	0
	15-21	20-40	7.4-8.4	0	0	0	0-2
	21-32	20-40	7.4-8.4	2-10	0	0	0
	32-43	10-25	7.4-8.4	2-10	0	0	0
	43-60	0.0-15	7.4-8.4	2-10	0	0	0

Table 15.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	Inches	meq/100 g	pH	Pct	Pct	mmhos/cm	
167:							
Whitehills	0-2	2.0-10	7.4-8.4	2-10	0	0	0
	2-7	2.0-10	7.4-8.4	5-10	0	0	0
	7-19	10-20	7.4-8.4	10-15	0	0	0
	19-27	2.0-10	7.4-8.4	15-30	0	0	0
	>27	---	---	---	0	---	---
168:							
Wodomont	0-2	5.0-15	7.4-8.4	5-15	0	0.0-2.0	0
	2-8	5.0-15	7.4-8.4	20-25	0	0.0-2.0	0
	8-18	5.0-15	7.4-8.4	15-50	0	0.0-2.0	0
	>18	---	---	---	0	---	---
Kydestea	0-2	15-30	7.9-8.4	1-5	0	0.0-2.0	0-13
	2-4	5.0-15	7.9-8.4	1-5	0	0.0-2.0	0-13
	4-10	15-30	7.9-8.4	10-15	0	0.0-2.0	0-13
	10-15	15-30	7.9-8.4	10-15	0	0.0-2.0	0-13
	>15	---	---	---	0	---	---
169:							
Wodomont	0-2	5.0-15	7.4-8.4	10-15	0	0.0-2.0	0
	2-8	5.0-15	7.4-8.4	15-25	0	0.0-2.0	0
	8-18	5.0-15	7.4-8.4	15-35	0	0.0-2.0	0
	>18	---	---	---	0	---	---
Metuck	0-2	5.0-10	7.9-8.4	5-15	0	0.0-2.0	0-2
	2-6	10-30	7.9-8.4	10-20	0	0.0-2.0	0-2
	>6	---	---	---	0	---	---
Rock outcrop	---	---	---	---	---	---	---
170:							
Wodomont	0-2	2.0-10	7.4-8.4	2-10	0	0	0
	2-12	2.0-10	7.4-8.4	15-25	0	0	0
	12-15	5.0-10	7.9-8.4	15-40	0	0.0-2.0	0-13
	>15	---	---	---	0	---	---
Rock outcrop	---	---	---	---	---	---	---
171:							
Yahana family	0-4	10-25	8.5-9.6	0-5	0	16.0-32.0	30-203
	4-8	8.0-38	8.5-9.6	0-5	0	16.0-32.0	30-393
	8-29	10-20	8.5-9.6	0-5	0	16.0-32.0	30-393
	29-41	8.0-38	8.5-9.6	0-5	0	16.0-32.0	30-393
	41-56	10-25	8.5-9.6	0-5	0	16.0-32.0	30-203
	56-60	1.0-3.0	7.9-9.6	0-5	0	16.0-32.0	13-30
172:							
Zibate family	0-2	10-20	7.4-8.4	0	0	0.0-2.0	0-2
	2-5	15-30	7.4-8.4	0-5	0	0.0-2.0	0-2
	5-13	15-30	7.4-8.4	0	0	0.0-2.0	0-2
	>13	---	---	---	0	---	---

Table 15.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	Inches	meq/100 g	pH	Pct	Pct	mmhos/cm	
173:							
Zibate family--------	0-2	20-30	7.4-7.9	0	0	0	0
	2-17	20-30	7.4-7.9	0	0	0	0
	>17	---	---	---	0	---	---
174:							
Zibate family--------	0-1	5.0-20	7.4-7.9	0	0	0	0
	1-5	15-25	6.6-7.8	0	0	0.0-2.0	0
	5-10	15-25	6.6-8.4	0-10	0	0	0
	>10	---	---	---	0	---	---
Dutchflat----------	0-3	2.0-5.0	7.4-8.4	0	0	0	0
	3-7	2.0-5.0	7.4-8.4	0	0	0	0
	7-24	5.0-15	7.4-8.4	0	0	0	0
	24-39	10-15	7.4-8.4	1-5	0	0	0
	39-60	0.0-5.0	7.4-8.4	1-5	0	0	0
Tumarion----------	0-2	10-15	7.9-8.4	1-5	0	0	0
	2-15	20-30	7.9-8.4	10-30	0	0	0
	15-19	---	---	---	0	---	---
	>19	---	---	---	0	---	---

Table 16.--Soil Features

(See text for definitions of terms used in this table. Absence of an entry indicates that the feature is not a concern or that data were not estimated.)

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
		In	In				
1:							
Alko family	Duripan	10-20	---	Indurated	None	High	Low
2:							
Alko family	Duripan	7-20	---	Indurated	Moderate	High	Low
3:							
Appleseed	Bedrock (lithic)	4-20	---	---	Moderate	High	Low
Huevi	---	---	---	---	Moderate	High	Low
4:							
Aridic Argiustolls	---	---	---	---	Moderate	High	Low
Lithic Haplustolls	Bedrock (lithic)	5-20	---	---	Moderate	High	Low
5:							
Arizo	---	---	---	---	Low	High	Low
Detrital	---	---	---	---	Moderate	High	Low
Nickel	---	---	---	---	Moderate	High	Low
6:							
Arizo	---	---	---	---	Low	High	Low
Franconia	---	---	---	---	None	High	Low
Riverwash	---	---	---	---	---	---	---
7:							
Arizo	---	---	---	---	Low	High	Low
Riverwash	---	---	---	---	---	---	---
8:							
Arizo	---	---	---	---	Low	High	Low
Riverwash	---	---	---	---	---	---	---

Table 16.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
		In	In				
9:							
Arizo	---	---	---	---	Low	High	Low
Riverwash	---	---	---	---	---	---	---
10:							
Arizo	---	---	---	---	Low	High	Low
Riverwash	---	---	---	---	---	---	---
11:							
Azure	Bedrock (paralithic)	10-20	---	---	Low	High	Low
	Bedrock (lithic)	20-30	---	---			
Detrital	---	---	---	---	Moderate	High	Low
Antares	Bedrock (paralithic)	4-14	---	---	Moderate	High	Low
12:							
Birdsbeak	Bedrock (paralithic)	4-20	---	---	Low	High	Low
13:							
Bluebird	---	---	---	---	Moderate	High	Low
Detrital	---	---	---	---	Moderate	High	Low
14:							
Bluebird	---	---	---	---	Moderate	High	Low
Lostman	---	---	---	---	Moderate	High	Low
15:							
Carrizo	---	---	---	---	Low	High	Low
Carrizo, rarely flooded	---	---	---	---	Low	High	Low

Table 16.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
		In	In				
16:							
Carrizo	---	---	---	---	Low	High	Low
Riverwash	---	---	---	---	---	---	---
17:							
Carrizo	---	---	---	---	Low	High	Low
Riverwash	---	---	---	---	---	---	---
18:							
Chuckawalla	---	---	---	---	None	High	Low
Riverbend	---	---	---	---	None	High	Low
19:							
Circular	---	---	---	---	Moderate	High	Low
Circular	---	---	---	---	Moderate	High	Low
20:							
Circular	---	---	---	---	Moderate	High	Low
Dusty	---	---	---	---	Moderate	High	Low
21:							
Cod	---	---	---	---	Moderate	High	Low
22:							
Cordes	---	---	---	---	Moderate	High	Low
Manikan	---	---	---	---	Moderate	High	Low
Riverwash	---	---	---	---	---	---	---
23:							
Cupel	Bedrock (lithic)	10-20	---	---	Moderate	High	Low
Rock outcrop	---	---	---	---	---	---	---
24:							
Cyclopic	Duripan	20-40	---	Indurated	Moderate	High	Low

Table 16.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
		In	In				
25:							
Deluge	Duripan	20-40	---	Indurated	Moderate	High	Low
	Bedrock (lithic)	30-60	---	---			
Gotchell	Duripan	4-20	---	Indurated	Moderate	High	Low
	Bedrock (lithic)	15-60	---	---			
Sunstroke	Duripan	20-40	---	Indurated	Moderate	High	Low
	Bedrock (lithic)	30-60	---	---			
26:							
Detrital	---	---	---	---	Moderate	High	Low
Bluebird	---	---	---	---	Moderate	High	Low
27:							
Detrital	---	---	---	---	Moderate	High	Low
Nealy	Duripan	20-40	6-30	Indurated	Moderate	High	Low
28:							
Detrital	---	---	---	---	Moderate	High	Low
Nickel	Cemented horizon	20-40	---	Weakly cemented	Moderate	High	Low
29:							
Detrital	---	---	---	---	Moderate	High	Low
Nickel family	Petrocalcic	40-60	---	Indurated	Moderate	High	Low
30:							
Detrital	---	---	---	---	Moderate	High	Low
Skelon family	Duripan	20-40	---	Moderately cemented	Moderate	High	Low

Table 16.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
		In	In				
31:							
Dusty	---	---	---	---	Moderate	High	Low
Kurstan family	---	---	---	---	Moderate	Moderate	Low
32:							
Dutchflat	---	---	---	---	None	High	Low
33:							
Dye	Bedrock (lithic)	10-20	---	---	Low	High	Low
Tovar	Bedrock (lithic)	20-40	---	---	Low	High	Low
Rock outcrop	---	---	---	---	---	---	---
34:							
Faraway	Bedrock (paralithic)	6-9	---	---	Moderate	High	Low
	Bedrock (lithic)	6-10	---	---			
Rock outcrop	---	---	---	---	---	---	---
35:							
Fig	Bedrock (paralithic)	4-20	---	---	Moderate	High	Low
Blind	---	---	---	---	Moderate	High	Low
Nodman	Bedrock (paralithic)	10-20	---	---	Moderate	High	Low
36:							
Filaree	---	---	---	---	Moderate	High	Low
37:							
Filaree	---	---	---	---	Moderate	High	Low
Dutchflat	---	---	---	---	Moderate	High	Low

Table 16.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
		In	In				
38:							
Garnet	---	---	---	---	Moderate	High	Low
Dutchflat	---	---	---	---	Moderate	High	Low
39:							
Goesling family	---	---	---	---	Low	High	Low
40:							
Goldroad	Bedrock (lithic)	5-10	---	---	Moderate	High	Low
	Bedrock (paralithic)	5-8	---	---			
Rock outcrop	---	---	---	---	---	---	---
41:							
Goldroad	Bedrock (lithic)	4-10	---	---	Moderate	High	Low
Rock outcrop	---	---	---	---	---	---	---
42:							
Gonzales	Bedrock (paralithic)	10-20	---	---	None	High	Low
	Bedrock (lithic)	11-20	---	---			
Rock outcrop	---	---	---	---	---	---	---
43:							
Goodsprings family	Petrocalcic	4-20	---	---	Low	Low	Low
44:							
Gotchell	Duripan	4-20	---	Indurated	Moderate	---	Low
	Bedrock (lithic)	15-60	---	---			
Sunstroke	Duripan	20-40	---	Indurated	Moderate	High	Low
	Bedrock (lithic)	30-60	---	---			

Table 16.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
		In	In				
45:							
Graham	Bedrock (lithic)	8-20	---	---	None	High	Low
Arivaca	Bedrock (lithic)	20-40	---	---	None	High	Low
46:							
Graham	Bedrock (lithic)	8-20	---	---	None	High	Low
Rock outcrop	---	---	---	---	---	---	---
47:							
Grandwash	Bedrock (lithic)	6-20	---	---	Low	High	Low
48:							
Greyeagle family	Duripan	4-20	---	Indurated	Moderate	High	Low
49:							
Greyeagle family	Duripan	4-20	---	Indurated	Moderate	High	Low
50:							
Greyeagle family	Duripan	4-20	---	Indurated	Moderate	High	Low
Cyclopic	Duripan	20-40	---	Indurated	Low	High	Low
51:							
Greyeagle family	Duripan	4-20	---	Indurated	Moderate	High	Low
Skelon family	Duripan	20-40	---	Indurated	Moderate	High	Low
52:							
Greyeagle family	Duripan	4-20	---	Indurated	Moderate	High	Low
Skelon family	Duripan	20-40	---	Indurated	Moderate	High	Low
53:							
Gypsids	Bedrock (paralithic)	10-60	---	---	Low	High	High

Table 16.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
		In	In				
54:							
Haplogypsids, eroded---	Bedrock (lithic)	4-10	---	---	Low	High	High
Haplogypsids-----------	---	---	---	---	Low	High	High
55:							
Hassell family---------	Bedrock (paralithic)	20-40	---	---	None	High	Low
Lampshire--------------	Bedrock (lithic)	4-20	---	---	None	High	Low
	Bedrock (paralithic)	4-20	---	---			
Rock outcrop-----------	---	---	---	---	---	---	---
56:							
Hindu------------------	Bedrock (lithic)	4-19	---	---	None	High	Low
Rock outcrop-----------	---	---	---	---	None	---	---
57:							
Hooks family-----------	---	---	---	---	Moderate	Low	Low
Courtland family-------	Bedrock (lithic)	40-60	---	---	Moderate	Low	Low
58:							
Hosta family-----------	---	---	---	---	Moderate	High	Low
59:							
House Mountain family--	Bedrock (paralithic)	4-20	---	---	Moderate	Moderate	Low
	Bedrock (lithic)	4-20	---	---			
Calvista family--------	Bedrock (lithic)	4-20	---	---	Moderate	Moderate	Low
Rock outcrop-----------	---	---	---	---	---	---	---

Table 16.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
		In	In				
60:							
Huevi	---	---	---	---	Moderate	High	Low
61:							
Huevi	---	---	---	---	None	High	Low
62:							
Huevi	---	---	---	---	Moderate	High	Low
63:							
Huevi	---	---	---	---	Moderate	High	Low
Carrizo	---	---	---	---	Low	High	Low
64:							
Huevi	---	---	---	---	Moderate	High	Low
Carrwash	---	---	---	---	Low	High	Low
65:							
Huevi	---	---	---	---	Moderate	High	Low
Sunrock	Bedrock (lithic)	4-20	---	---	Moderate	High	Low
Rock outcrop	---	---	---	---	---	---	---
66:							
Hulda	Bedrock (lithic)	4-19	---	---	Moderate	High	Low
67:							
Hulda	Bedrock (lithic)	4-10	---	---	Moderate	High	Low
Rock outcrop	---	---	---	---	---	---	---
68:							
Hulda	Bedrock (lithic)	4-10	---	---	Moderate	High	Low
Rock outcrop	---	---	---	---	---	---	---

Table 16.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
		In	In				
69:							
Ireteba family	---	---	---	---	None	High	Low
Arizo	---	---	---	---	None	High	Low
70:							
Jagerson	---	---	---	---	None	High	Low
71:							
Jagerson	---	---	---	---	Moderate	High	Low
Nealy	Duripan	20-40	6-30	Indurated	Moderate	High	Low
72:							
Kingtut	Petrocalcic	10-20	---	Indurated	Low	High	Low
	Bedrock (lithic)	20-40	---	---			
Promontory	Petrocalcic	4-19	---	Indurated	Low	High	Low
	Bedrock (lithic)	6-20	---	---			
73:							
Kinley	---	---	---	---	None	High	Low
74:							
Kurstan family	---	---	---	---	Moderate	High	Low
Dusty	---	---	---	---	Moderate	High	Low
75:							
Lampshire	Bedrock (paralithic)	6-20	---	---	None	High	Low
	Bedrock (lithic)	17-20	---	---			
Rock outcrop	---	---	---	---	---	---	---
76:							
Lostman	---	---	---	---	Moderate	High	Low

Table 16.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
		In	In				
77:							
Lostman	---	---	---	---	Moderate	High	Low
78:							
Luzena	Bedrock (lithic)	7-20	---	---	Low	High	Low
Thunderbird	Bedrock (lithic)	20-40	---	---	Low	High	Low
79:							
Lykorly	---	---	---	---	Moderate	High	Low
80:							
Lykorly	---	---	---	---	Moderate	High	Low
81:							
Manikan	---	---	---	---	Moderate	High	Low
Nuffel	---	---	---	---	Moderate	Moderate	Low
82:							
Mathis family	---	---	---	---	Low	High	Low
Riverwash	---	---	---	---	---	---	---
83:							
Mayswell	Bedrock (lithic)	6-20	---	---	Low	High	Low
Rock outcrop	---	---	---	---	---	---	---
84:							
Meadview	---	---	---	---	Low	High	Low
85:							
Meadview	---	---	---	---	Low	High	Low
Yurm family	Petrocalcic	10-20	---	Indurated	Moderate	High	Low
86:							
Meriwhitica	Bedrock (lithic)	4-10	---	---	Moderate	High	Low
Rock outcrop	---	---	---	---	---	---	---

Table 16.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
		In	In				
87:							
Mextank	---	---	---	---	Moderate	High	Low
88:							
Milkweed	Petrocalcic	10-20	---	Indurated	Moderate	High	Low
Quartermaster	Petrocalcic	20-40	---	---	Moderate	High	Low
Buckndoe	Petrocalcic	40-59	---	---	Moderate	High	Low
89:							
Milok	---	---	---	---	Moderate	High	Low
Pastern	Petrocalcic	7-20	---	Strongly cemented	Moderate	High	Low
90:							
Mutang	Bedrock (paralithic)	10-20	---	---	Low	High	Low
	Bedrock (lithic)	20-41	---	---			
Dutchflat	---	---	---	---	None	High	Low
91:							
Mutang	Bedrock (paralithic)	10-20	---	---	Low	High	Low
	Bedrock (lithic)	20-41	---	---			
Wikieup	Bedrock (lithic)	5-20	---	---	Moderate	High	Low
Rock outcrop	---	---	---	---	---	---	---
92:							
Nealy	Duripan	20-40	---	Indurated	Moderate	High	Low
Shamock family	Duripan	20-40	---	Indurated	Low	High	Low

Table 16.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
		In	In				
93:							
Nealy	Duripan	20-40	6-30	Indurated	Moderate	High	Low
Skelon family	Duripan	20-40	---	Indurated	Moderate	High	Low
Detrital	---	---	---	---	Moderate	High	Low
94:							
Nickel family	---	---	---	---	Moderate	High	Low
Bluebird	---	---	---	---	Moderate	High	Low
95:							
Nickel	---	---	---	---	Moderate	Moderate	Low
Skelon family	Duripan	20-40	---	Indurated	Moderate	High	Low
Detrital	---	---	---	---	Moderate	High	Low
96:							
Nickel family	---	---	---	---	None	High	Low
Topawa family	---	---	---	---	None	High	Low
Eba family	---	---	---	---	None	High	Low
97:							
Nodman	Bedrock (paralithic)	10-20	---	---	Moderate	High	Low
	Bedrock (lithic)	20-40	---	---			
Antares	Bedrock (paralithic)	4-14	---	---	Moderate	High	Low
	Bedrock (lithic)	10-60	---	---			
98:							
Nodman	Bedrock (paralithic)	5-20	---	---	Moderate	Moderate	Low
Courtland family	Bedrock (lithic)	20-60	---	---	Moderate	Moderate	Low

Table 16.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
		In	In				
99:							
Nodman	Bedrock (paralithic)	5-20	---	---	Moderate	Moderate	Low
	Bedrock (paralithic)	5-20	---	---			
Rock outcrop	---	---	---	---	---	---	---
100:							
Nodman	Bedrock (paralithic)	5-20	---	---	Moderate	Moderate	Low
Romero family	Bedrock (paralithic)	5-20	---	---	Moderate	Low	Low
	Bedrock (paralithic)	5-20	---	---			
	Bedrock (lithic)	20-40	---	---			
101:							
Nolam family	---	---	---	---	Moderate	Moderate	Low
Ustalfic Petrocalcids	Petrocalcic	5-40	---	Moderately cemented	Moderate	Moderate	Low
Caralampi family	---	---	---	---	Moderate	Moderate	Low
102:							
Ohaco family	Duripan	20-40	---	Strongly cemented	Low	High	Low
Bluebird	---	---	---	---	Moderate	High	Low
103:							
Orejano	---	---	---	---	Low	High	Low
104:							
Pantak family	Bedrock (lithic)	5-20	---	---	Moderate	Low	Low

Table 16.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
		In	In				
104:							
Taine	Bedrock (lithic)	10-20	---	---	Low	Moderate	Low
Terino family	Petrocalcic	10-20	---	Indurated	Low	Moderate	Low
	Bedrock (lithic)	11-60	---	---			
105:							
Pastern	Petrocalcic	7-20	---	Strongly cemented	Moderate	High	Low
Strych	---	---	---	---	Moderate	High	Low
106:							
Peachsprings	---	---	---	---	Moderate	High	Low
Havasupai	Petrocalcic	10-20	4-17	---	Moderate	High	Low
107:							
Pearce	Bedrock (lithic)	4-20	---	---	Moderate	High	Low
108:							
Pearce	Bedrock (lithic)	5-20	---	---	Moderate	High	Low
Detrital	---	---	---	---	Moderate	High	Low
Rock outcrop	---	---	---	---	---	---	---
109:							
Pearce	Bedrock (lithic)	5-20	---	---	Moderate	High	Low
Rock outcrop	---	---	---	---	---	---	---
110:							
Pedregosa family	Petrocalcic	10-20	---	Indurated	Moderate	Low	Low
Tombstone family	Petrocalcic	40-60	---	Indurated	Moderate	Low	Low
111:							
Pidineen family	Petrocalcic	10-20	---	Indurated	Moderate	High	Low
Tricon family	Petrocalcic	20-40	---	Strongly cemented*	Moderate	High	Low

Table 16.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
		In	In				
112:							
Pits-dumps, mine-------	---	---	---	---	---	---	---
113:							
Playa------------------	---	---	---	---	---	---	---
114:							
Prieta-----------------	Bedrock (paralithic)	10-20	---	---	Low	High	Low
	Bedrock (lithic)	10-20	---	---			
Rock outcrop-----------	---	---	---	---	None	---	---
115:							
Quagwa-----------------	---	---	---	---	Moderate	High	Low
116:							
Razorback--------------	Bedrock (lithic)	4-20	---	---	None	High	Low
117:							
Razorback--------------	Bedrock (lithic)	4-20	---	---	None	High	Low
Rock outcrop-----------	---	---	---	---	---	---	---
118:							
Razorback--------------	Bedrock (lithic)	4-20	---	---	Moderate	High	Low
Rock outcrop-----------	---	---	---	---	---	---	---
119:							
Rift-------------------	---	---	---	---	Moderate	High	Low
120:							
Rift-------------------	---	---	---	---	Moderate	High	Moderate
121:							
Rillino family---------	---	---	---	---	Moderate	High	Low
Shamock family---------	Duripan	20-40	---	Indurated	Low	High	Low
Dutchflat--------------	---	---	---	---	None	High	Low

Table 16.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
		In	In				
122:							
Rock outcrop	---	---	---	---	---	---	---
Appleseed	Bedrock (lithic)	4-20	---	---	Moderate	High	Low
123:							
Rock outcrop	---	---	---	---	---	---	---
Pearce	Bedrock (lithic)	5-20	---	---	Moderate	High	Low
124:							
Rock outcrop	---	---	---	---	---	---	---
Razorback	Bedrock (lithic)	4-20	---	---	None	High	Low
125:							
Rock outcrop	---	---	---	---	---	---	---
Torriorthents	---	---	---	---	Moderate	High	Low
126:							
Rock outcrop	---	---	---	---	---	---	---
Torriorthents	---	---	---	---	Moderate	High	Low
127:							
Rock outcrop	---	---	---	---	---	---	---
Valena	Bedrock (lithic)	10-20	---	---	Low	High	Low
Kopie family	Bedrock (lithic)	10-19	---	---	Low	High	Low
128:							
Rolie	Petrocalcic	6-20	---	Indurated	Moderate	High	Low
Dean	---	---	---	---	Moderate	High	Low
129:							
Romero	Bedrock (lithic)	6-20	---	---	None	High	Low

Table 16.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
		In	In				
129:							
Chiricahua	Bedrock (paralithic)	16-24	---	---	None	High	Low
	Bedrock (lithic)	22-40	---	---			
Rock outcrop	---	---	---	---	---	---	---
130:							
Romero	Bedrock (paralithic)	4-20	---	---	None	High	Low
Lampshire	Bedrock (paralithic)	4-20	---	---	None	High	Low
	Bedrock (lithic)	4-20	---	---			
Rock outcrop	---	---	---	---	---	---	---
131:							
Rositas	---	---	---	---	Low	Low	Low
132:							
Shortbread	---	---	---	---	Low	High	Low
133:							
Shortbread	---	---	---	---	Moderate	Moderate	Low
Kurstan family	---	---	---	---	Moderate	High	Low
Dusty	---	---	---	---	Moderate	High	Low
134:							
Skelon family	Duripan	20-40	---	Indurated	Moderate	High	Low
Greyeagle family	Duripan	4-20	---	Indurated	Moderate	High	Low
Detrital	---	---	---	---	Moderate	High	Low

Table 16.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
		In	In				
135:							
Skelon family	Duripan	20-40	---	Indurated	Moderate	High	Low
Pinaleno family	---	---	---	---	Moderate	High	Low
136:							
Storybook	---	---	---	---	Moderate	High	Low
137:							
Stronghold family	---	---	---	---	Moderate	Low	Low
McAllister family	---	---	---	---	Moderate	Moderate	Low
138:							
Sunrock	Bedrock (lithic)	5-20	---	---	Low	High	Low
139:							
Sunrock	Bedrock (lithic)	7-20	---	---	Low	High	Low
Rock outcrop	---	---	---	---	---	---	---
140:							
Superstition family	---	---	---	---	Low	High	Low
Carrwash	---	---	---	---	Low	High	Low
141:							
Taine	Bedrock (lithic)	4-20	---	---	Low	High	Low
142:							
Thimble	Bedrock (paralithic)	8-18	---	---	Low	High	Low
	Bedrock (lithic)	10-20	---	---			
Rock outcrop	---	---	---	---	---	---	---

Table 16.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
		In	In				
143:							
Tombstone family	---	---	---	---	Moderate	Low	Low
Caralampi family	---	---	---	---	Moderate	Moderate	Low
Nolam family	---	---	---	---	Moderate	Moderate	Low
144:							
Torriorthents	---	---	---	---	Low	Moderate	Low
145:							
Torriorthents	---	---	---	---	Moderate	High	High
Haplocambids	---	---	---	---	Moderate	High	High
146:							
Torriorthents	---	---	---	---	Moderate	High	Low
Rock outcrop	---	---	---	---	---	---	---
147:							
Tovar	Bedrock (lithic)	20-40	---	---	Low	High	Low
Grandwash	Bedrock (lithic)	6-20	---	---	Low	High	Low
148:							
Truxton	---	---	---	---	Moderate	High	Low
Truxton, frequently flooded	---	---	---	---	Moderate	High	Low
149:							
Tumarion	Duripan	5-18	---	Indurated	None	High	Low
	Bedrock (lithic)	7-20	---	---			
150:							
Tumarion	Duripan	5-18	---	Indurated	Moderate	High	Low
	Bedrock (lithic)	7-20	---	---			

Table 16.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
		In	In				
150:							
Nickel family	---	---	---	---	Moderate	High	Low
151:							
Tumarion	Duripan	5-18	---	Indurated	Moderate	High	Low
	Bedrock (lithic)	7-20	---	---			
Nickel family	---	---	---	---	Moderate	High	Low
152:							
Tyro	Duripan	5-19	---	Indurated	Low	High	Low
	Bedrock (lithic)	7-19	---	---			
153:							
Tyro	Duripan	5-19	---	Indurated	Low	High	Low
	Bedrock (lithic)	7-19	---	---			
154:							
Tyro	Duripan	5-19	---	Very strongly cemented	Low	High	Low
Sunrock	Bedrock (lithic)	4-10	---	---	Moderate	High	Low
155:							
Urban land	---	---	---	---	---	---	---
Calvista family	Bedrock (lithic)	4-20	---	---	Moderate	Moderate	Low
156:							
Ustorthents	Bedrock (lithic)	8-62	---	---	None	---	---
Rock outcrop	---	---	---	---	None	---	---
157:							
Valena	Bedrock (lithic)	10-20	---	---	Low	High	Low
Carri	Bedrock (lithic)	20-40	---	---	Low	High	Low

Table 16.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
		In	In				
158:							
Valena	Bedrock (lithic)	10-20	---	---	Low	High	Low
Rock outcrop	---	---	---	---	---	---	---
Carri family	---	---	---	---	Low	High	Low
159:							
Vekol family	---	---	---	---	None	High	Low
160:							
Vekol family	---	---	---	---	Low	High	Low
161:							
Vekol family	---	---	---	---	Low	High	Low
Whitehills	Duripan	20-40	---	Indurated	Low	High	Low
162:							
Vock	Bedrock (paralithic)	10-20	---	---	Low	High	Low
Elements	---	---	---	---	Low	High	Low
Rock outcrop	---	---	---	---	---	---	---
163:							
Vock	Bedrock (paralithic)	10-20	---	---	Low	High	Low
Elements	---	---	---	---	Low	High	Low
Rock outcrop	---	---	---	---	---	---	---
164:							
Water	---	---	---	---	---	---	---
165:							
White House	---	---	---	---	None	High	Low

Table 16.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
		In	In				
166:							
White House family-----	---	---	---	---	None	High	Low
167:							
Whitehills----------	Duripan	20-40	---	Indurated	None	High	Low
168:							
Wodomont----------	Bedrock (lithic)	10-20	---	---	Moderate	High	Low
Kydestea----------	Bedrock (lithic)	4-20	---	---	Moderate	High	Low
169:							
Wodomont----------	Bedrock (lithic)	6-20	---	---	Moderate	High	Low
Metuck----------	Bedrock (lithic)	4-17	---	---	Moderate	High	Low
Rock outcrop----------	---	---	---	---	---	---	---
170:							
Wodomont----------	Bedrock (lithic)	6-20	---	---	Moderate	High	Low
Rock outcrop----------	---	---	---	---	None	---	---
171:							
Yahana family----------	---	---	---	---	None	High	High
172:							
Zibate family----------	Bedrock (lithic)	10-20	---	---	Moderate	High	Low
173:							
Zibate family----------	Bedrock (lithic)	10-20	---	---	Moderate	High	Low
174:							
Zibate family----------	Bedrock (lithic)	10-16	---	Indurated	Moderate	High	Low
Dutchflat----------	---	---	---	---	Moderate	High	Low
Tumarion----------	Duripan	5-18	---	Indurated	Moderate	High	Low
	Bedrock (lithic)	7-20	---	Indurated			

Table 17.--Water Features

(Depths of layers are in feet. See text for definitions of terms used in this table. Estimates of the frequency of ponding and flooding apply to the whole year rather than to individual months. Absence of an entry indicates that the feature is not a concern or that data were not estimated.)

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Ponding			Flooding	
				Surface water depth	Duration	Frequency	Duration	Frequency
				Ft				
1:								
Alko family	D	Very high	Jan-Dec	---	---	None	---	None
2:								
Alko family	D	Very high	Jan-Dec	---	---	None	---	None
3:								
Appleseed	D	Very high	Jan-Dec	---	---	None	---	None
Huevi	A	Low	Jan-Dec	---	---	None	---	None
4:								
Aridic Argiustolls	C	---	Jan-Dec	---	---	None	---	None
Lithic Haplustolls	D	---	Jan-Dec	---	---	None	---	None
5:								
Arizo	A	Negligible	Jan-Dec	---	---	None	---	None
Detrital	A	Very low	Jan-Dec	---	---	None	---	None
Nickel	B	Medium	Jan-Dec	---	---	None	---	None

Table 17.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Ponding			Flooding	
				Surface water depth	Duration	Frequency	Duration	Frequency
				Ft				
6:								
Arizo	A	Very low						
			January	---	---	None	Brief	Rare
			February	---	---	None	Brief	Rare
			March	---	---	None	Brief	Rare
			July	---	---	None	Brief	Frequent
			August	---	---	None	Brief	Frequent
			September	---	---	None	Brief	Frequent
Franconia	B	Very low						
			January	---	---	None	Brief	Rare
			February	---	---	None	Brief	Rare
			March	---	---	None	Brief	Rare
			July	---	---	None	Brief	Occasional
			August	---	---	None	Brief	Occasional
			September	---	---	None	Brief	Occasional
Riverwash	A	---						
			January	---	---	None	Brief	Rare
			February	---	---	None	Brief	Rare
			March	---	---	None	Brief	Rare
			July	---	---	None	Brief	Frequent
			August	---	---	None	Brief	Frequent
			September	---	---	None	Brief	Frequent
7:								
Arizo	A	Very low						
			January	---	---	None	Brief	Very rare
			February	---	---	None	Brief	Very rare
			March	---	---	None	Brief	Very rare
			July	---	---	None	Brief	Occasional
			August	---	---	None	Brief	Occasional
			September	---	---	None	Brief	Occasional
Riverwash	A	---						
			January	---	---	None	Brief	Rare
			February	---	---	None	Brief	Rare
			March	---	---	None	Brief	Rare
			July	---	---	None	Brief	Frequent
			August	---	---	None	Brief	Frequent
			September	---	---	None	Brief	Frequent

Table 17.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Ponding			Flooding	
				Surface water depth	Duration	Frequency	Duration	Frequency
				Ft				
8:								
Arizo	A	Negligible						
			January	---	---	None	Brief	Rare
			February	---	---	None	Brief	Rare
			March	---	---	None	Brief	Rare
			July	---	---	None	Brief	Frequent
			August	---	---	None	Brief	Frequent
			September	---	---	None	Brief	Frequent
Riverwash	A	---						
			January	---	---	None	Brief	Rare
			February	---	---	None	Brief	Rare
			March	---	---	None	Brief	Rare
			July	---	---	None	Brief	Frequent
			August	---	---	None	Brief	Frequent
			September	---	---	None	Brief	Frequent
9:								
Arizo	A	Negligible						
			January	---	---	None	Brief	Very rare
			February	---	---	None	Brief	Very rare
			March	---	---	None	Brief	Very rare
			July	---	---	None	Brief	Rare
			August	---	---	None	Brief	Rare
			September	---	---	None	Brief	Rare
Riverwash	A	---						
			January	---	---	None	Brief	Rare
			February	---	---	None	Brief	Rare
			March	---	---	None	Brief	Rare
			July	---	---	None	Brief	Frequent
			August	---	---	None	Brief	Frequent
			September	---	---	None	Brief	Frequent

Table 17.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Ponding			Flooding	
				Surface water depth	Duration	Frequency	Duration	Frequency
				Ft				
10:								
Arizo	A	Negligible						
			January	---	---	None	Brief	Rare
			February	---	---	None	Brief	Rare
			March	---	---	None	Brief	Rare
			July	---	---	None	Brief	Frequent
			August	---	---	None	Brief	Frequent
			September	---	---	None	Brief	Frequent
Riverwash	A	---						
			January	---	---	None	Brief	Rare
			February	---	---	None	Brief	Rare
			March	---	---	None	Brief	Rare
			July	---	---	None	Brief	Frequent
			August	---	---	None	Brief	Frequent
			September	---	---	None	Brief	Frequent
11:								
Azure	D	Very high						
			Jan-Dec	---	---	None	---	None
Detrital	A	Low						
			Jan-Dec	---	---	None	---	None
Antares	D	Very high						
			Jan-Dec	---	---	None	---	None
12:								
Birdsbeak	D	Very high						
			Jan-Dec	---	---	None	---	None
13:								
Bluebird	C	High						
			Jan-Dec	---	---	None	---	None
Detrital	A	Low						
			Jan-Dec	---	---	None	---	None

Table 17.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Ponding			Flooding	
				Surface water depth	Duration	Frequency	Duration	Frequency
				Ft				
14:								
Bluebird	C	High						
			Jan-Dec	---	---	None	---	None
Lostman	B	Very low						
			Jan-Dec	---	---	None	---	None
15:								
Carrizo	A	Negligible						
			Jan-Dec	---	---	None	---	None
Carrizo, rarely flooded	A	Negligible						
			January	---	---	None	Brief	Very rare
			February	---	---	None	Brief	Very rare
			March	---	---	None	Brief	Very rare
			July	---	---	None	Brief	Rare
			August	---	---	None	Brief	Rare
			September	---	---	None	Brief	Rare
16:								
Carrizo	A	Negligible						
			January	---	---	None	Brief	Very rare
			February	---	---	None	Brief	Very rare
			March	---	---	None	Brief	Very rare
			July	---	---	None	Brief	Occasional
			August	---	---	None	Brief	Occasional
			September	---	---	None	Brief	Occasional
Riverwash	A	---						
			January	---	---	None	Brief	Rare
			February	---	---	None	Brief	Rare
			March	---	---	None	Brief	Rare
			July	---	---	None	Brief	Frequent
			August	---	---	None	Brief	Frequent
			September	---	---	None	Brief	Frequent

Table 17.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Ponding			Flooding	
				Surface water depth	Duration	Frequency	Duration	Frequency
				Ft				
17:								
Carrizo	A	Very low						
			January	---	---	None	Brief	Very rare
			February	---	---	None	Brief	Very rare
			March	---	---	None	Brief	Very rare
			July	---	---	None	Brief	Occasional
			August	---	---	None	Brief	Occasional
			September	---	---	None	Brief	Occasional
Riverwash	A	---						
			January	---	---	None	Brief	Rare
			February	---	---	None	Brief	Rare
			March	---	---	None	Brief	Rare
			July	---	---	None	Brief	Frequent
			August	---	---	None	Brief	Frequent
			September	---	---	None	Brief	Frequent
18:								
Chuckawalla	B	Medium						
			Jan-Dec	---	---	None	---	None
Riverbend	A	Very low						
			Jan-Dec	---	---	None	---	None
19:								
Circular	B	Very low						
			Jan-Dec	---	---	None	---	None
Circular	B	Very low						
			Jan-Dec	---	---	None	---	None
20:								
Circular	B	Very low						
			Jan-Dec	---	---	None	---	None

Table 17.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Ponding			Flooding	
				Surface water depth	Duration	Frequency	Duration	Frequency
				Ft				
20:								
Dusty	C	High						
			March	0.0-0.3	Brief	Rare	---	None
			June	0.0-0.3	Brief	Rare	---	None
			July	0.0-0.3	Brief	Rare	---	None
			August	0.0-0.3	Brief	Rare	---	None
21:								
Cod	B	Very low						
			Jan-Dec	---	---	None	---	None
22:								
Cordes	B	Very low						
			January	---	---	None	Brief	Rare
			February	---	---	None	Brief	Rare
			March	---	---	None	Brief	Rare
			July	---	---	None	Brief	Frequent
			August	---	---	None	Brief	Frequent
			September	---	---	None	Brief	Frequent
Manikan	B	Medium						
			Jan-Dec	---	---	None	---	None
Riverwash	---	---						
			January	---	---	None	Brief	Rare
			February	---	---	None	Brief	Rare
			March	---	---	None	Brief	Rare
			July	---	---	None	Brief	Frequent
			August	---	---	None	Brief	Frequent
			September	---	---	None	Brief	Frequent
23:								
Cupel	D	Very high						
			Jan-Dec	---	---	None	---	None
Rock outcrop	---	---						
			Jan-Dec	---	---	None	---	None

Table 17.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Ponding			Flooding	
				Surface water depth	Duration	Frequency	Duration	Frequency
				Ft				
24:								
Cyclopic	D	Very high	Jan-Dec	---	---	None	---	None
25:								
Deluge	C	Very high	Jan-Dec	---	---	None	---	None
Gotchell	D	Very high	Jan-Dec	---	---	None	---	None
Sunstroke	D	Very high	Jan-Dec	---	---	None	---	None
26:								
Detrital	A	Low	Jan-Dec	---	---	None	---	None
Bluebird	C	High	Jan-Dec	---	---	None	---	None
27:								
Detrital	A	Very low	Jan-Dec	---	---	None	---	None
Nealy	B	Very high	Jan-Dec	---	---	None	---	None
28:								
Detrital	A	Very low	Jan-Dec	---	---	None	---	None
Nickel	B	Medium	Jan-Dec	---	---	None	---	None
29:								
Detrital	A	Very low	Jan-Dec	---	---	None	---	None

Table 17.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Ponding			Flooding	
				Surface water depth	Duration	Frequency	Duration	Frequency
				Ft				
29:								
Nickel family	B	Medium						
			Jan-Dec	---	---	None	---	None
30:								
Detrital	A	Very low						
			Jan-Dec	---	---	None	---	None
Skelon family	C	High						
			Jan-Dec	---	---	None	---	None
31:								
Dusty	C	Very high						
			March	0.0-0.3	Brief	Rare	---	None
			June	0.0-0.3	Brief	Rare	---	None
			July	0.0-0.3	Brief	Rare	---	None
			August	0.0-0.3	Brief	Rare	---	None
Kurstan family	B	Very low						
			Jan-Dec	---	---	None	---	None
32:								
Dutchflat	B	Low						
			Jan-Dec	---	---	None	---	None
33:								
Dye	D	Very high						
			Jan-Dec	---	---	None	---	None
Tovar	C	Very high						
			Jan-Dec	---	---	None	---	None
Rock outcrop	---	---						
			Jan-Dec	---	---	None	---	None
34:								
Faraway	D	Very high						
			Jan-Dec	---	---	None	---	None

Table 17.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Ponding			Flooding	
				Surface water depth	Duration	Frequency	Duration	Frequency
				Ft				
34:								
Rock outcrop	---	---						
			Jan-Dec	---	---	None	---	None
35:								
Fig	D	Very high						
			Jan-Dec	---	---	None	---	None
Blind	B	High						
			Jan-Dec	---	---	None	---	None
Nodman	B	Very high						
			Jan-Dec	---	---	None	---	None
36:								
Filaree	B	Very low						
			Jan-Dec	---	---	None	---	None
37:								
Filaree	B	Very low						
			Jan-Dec	---	---	None	---	None
Dutchflat	B	Low						
			Jan-Dec	---	---	None	---	None
38:								
Garnet	B	Low						
			Jan-Dec	---	---	None	---	None
Dutchflat	B	Low						
			Jan-Dec	---	---	None	---	None
39:								
Goesling family	B	High						
			Jan-Dec	---	---	None	---	None
40:								
Goldroad	D	Very high						
			Jan-Dec	---	---	None	---	None

Table 17.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Ponding			Flooding	
				Surface water depth	Duration	Frequency	Duration	Frequency
				Ft				
40:								
Rock outcrop	---	---	Jan-Dec	---	---	None	---	None
41:								
Goldroad	D	Very high	Jan-Dec	---	---	None	---	None
Rock outcrop	---	---	Jan-Dec	---	---	None	---	None
42:								
Gonzales	D	Very high	Jan-Dec	---	---	None	---	None
Rock outcrop	---	---	Jan-Dec	---	---	None	---	None
43:								
Goodsprings family	D	Very high	Jan-Dec	---	---	None	---	None
44:								
Gotchell	D	Very high	Jan-Dec	---	---	None	---	None
Sunstroke	D	Very high	Jan-Dec	---	---	None	---	None
45:								
Graham	D	Very high	Jan-Dec	---	---	None	---	None
Arivaca	D	Very high	Jan-Dec	---	---	None	---	None
46:								
Graham	D	Very high	Jan-Dec	---	---	None	---	None

Table 17.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Ponding			Flooding	
				Surface water depth	Duration	Frequency	Duration	Frequency
				Ft				
46:								
Rock outcrop	---	---						
			Jan-Dec	---	---	None	---	None
47:								
Grandwash	D	Very high						
			Jan-Dec	---	---	None	---	None
48:								
Greyeagle family	D	Very high						
			Jan-Dec	---	---	None	---	None
49:								
Greyeagle family	D	Very high						
			Jan-Dec	---	---	None	---	None
50:								
Greyeagle family	D	Very high						
			Jan-Dec	---	---	None	---	None
Cyclopic	C	Very high						
			Jan-Dec	---	---	None	---	None
51:								
Greyeagle family	D	Very high						
			Jan-Dec	---	---	None	---	None
Skelon family	C	Very high						
			Jan-Dec	---	---	None	---	None
52:								
Greyeagle family	D	Very high						
			Jan-Dec	---	---	None	---	None
Skelon family	C	Very high						
			Jan-Dec	---	---	None	---	None

Table 17.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Ponding			Flooding	
				Surface water depth	Duration	Frequency	Duration	Frequency
				Ft				
53:								
Gypsids	D	---	Jan-Dec	---	---	None	---	None
54:								
Haplogypsids, eroded	D	---	Jan-Dec	---	---	None	---	None
Haplogypsids	D	---	Jan-Dec	---	---	None	---	None
55:								
Hassell family	C	Very high	Jan-Dec	---	---	None	---	None
Lampshire	D	Very high	Jan-Dec	---	---	None	---	None
Rock outcrop	---	---	Jan-Dec	---	---	None	---	None
56:								
Hindu	D	Very high	Jan-Dec	---	---	None	---	None
Rock outcrop	---	---	Jan-Dec	---	---	None	---	None
57:								
Hooks family	B	Very low	Jan-Dec	---	---	None	---	None
Courtland family	B	High	Jan-Dec	---	---	None	---	None
58:								
Hosta family	C	Very high	Jan-Dec	---	---	None	---	None

Table 17.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Ponding			Flooding	
				Surface water depth	Duration	Frequency	Duration	Frequency
				Ft				
59:								
House Mountain family-----	D	Very high						
			Jan-Dec	---	---	None	---	None
Calvista family-----------	D	Very high						
			Jan-Dec	---	---	None	---	None
Rock outcrop--------------	---	---						
			Jan-Dec	---	---	None	---	None
60:								
Huevi---------------------	A	Very low						
			Jan-Dec	---	---	None	---	None
61:								
Huevi---------------------	B	Medium						
			Jan-Dec	---	---	None	---	None
62:								
Huevi---------------------	A	Medium						
			Jan-Dec	---	---	None	---	None
63:								
Huevi---------------------	A	Low						
			Jan-Dec	---	---	None	---	None
Carrizo-------------------	A	Negligible						
			January	---	---	None	Brief	Very rare
			February	---	---	None	Brief	Very rare
			March	---	---	None	Brief	Very rare
			July	---	---	None	Brief	Rare
			August	---	---	None	Brief	Rare
			September	---	---	None	Brief	Rare
64:								
Huevi---------------------	A	Low						
			Jan-Dec	---	---	None	---	None
Carrwash------------------	A	Low						
			Jan-Dec	---	---	None	---	None

Table 17.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Ponding			Flooding	
				Surface water depth	Duration	Frequency	Duration	Frequency
				Ft				
65:								
Huevi	A	Medium						
			Jan-Dec	---	---	None	---	None
Sunrock	D	Very high						
			Jan-Dec	---	---	None	---	None
Rock outcrop	---	---						
			Jan-Dec	---	---	None	---	None
66:								
Hulda	D	Very high						
			Jan-Dec	---	---	None	---	None
67:								
Hulda	D	Very high						
			Jan-Dec	---	---	None	---	None
Rock outcrop	---	---						
			Jan-Dec	---	---	None	---	None
68:								
Hulda	D	Very high						
			Jan-Dec	---	---	None	---	None
Rock outcrop	---	---						
			Jan-Dec	---	---	None	---	None
69:								
Ireteba family	B	Very low						
			January	---	---	None	Very brief	Very rare
			February	---	---	None	Very brief	Very rare
			March	---	---	None	Very brief	Very rare
			July	---	---	None	Brief	Rare
			August	---	---	None	Brief	Rare
			September	---	---	None	Brief	Rare

Table 17.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Ponding			Flooding	
				Surface water depth	Duration	Frequency	Duration	Frequency
				Ft				
69:								
Arizo	B	Very low						
			January	---	---	None	Brief	Rare
			February	---	---	None	Brief	Rare
			March	---	---	None	Brief	Rare
			July	---	---	None	Brief	Frequent
			August	---	---	None	Brief	Frequent
			September	---	---	None	Brief	Frequent
70:								
Jagerson	B	Medium						
			Jan-Dec	---	---	None	---	None
71:								
Jagerson	C	Medium						
			Jan-Dec	---	---	None	---	None
Nealy	B	Very high						
			Jan-Dec	---	---	None	---	None
72:								
Kingtut	D	Very high						
			Jan-Dec	---	---	None	---	None
Promontory	D	Very high						
			Jan-Dec	---	---	None	---	None
73:								
Kinley	B	Medium						
			Jan-Dec	---	---	None	---	None
74:								
Kurstan family	B	Very low						
			Jan-Dec	---	---	None	---	None
Dusty	C	Very high						
			March	0.0-0.3	Brief	Rare	---	None
			June	0.0-0.3	Brief	Rare	---	None
			July	0.0-0.3	Brief	Rare	---	None
			August	0.0-0.3	Brief	Rare	---	None

Table 17.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Ponding			Flooding	
				Surface water depth	Duration	Frequency	Duration	Frequency
				Ft				
75:								
Lampshire	D	Very high	Jan-Dec	---	---	None	---	None
Rock outcrop	---	---	Jan-Dec	---	---	None	---	None
76:								
Lostman	B	Very low	Jan-Dec	---	---	None	---	None
77:								
Lostman	B	Very low	Jan-Dec	---	---	None	---	None
78:								
Luzena	D	Very high	Jan-Dec	---	---	None	---	None
Thunderbird	D	Very high	Jan-Dec	---	---	None	---	None
79:								
Lykorly	C	Medium	Jan-Dec	---	---	None	---	None
80:								
Lykorly	C	High	Jan-Dec	---	---	None	---	None
81:								
Manikan	B	Medium	Jan-Dec	---	---	None	---	None
Nuffel	B	Low	Jan-Dec	---	---	None	---	None

Table 17.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Ponding			Flooding	
				Surface water depth	Duration	Frequency	Duration	Frequency
				Ft				
82:								
Mathis family	B	Negligible						
			January	---	---	None	Brief	Rare
			February	---	---	None	Brief	Rare
			March	---	---	None	Brief	Rare
			July	---	---	None	Brief	Frequent
			August	---	---	None	Brief	Frequent
			September	---	---	None	Brief	Frequent
Riverwash	A	---						
			January	---	---	None	Brief	Rare
			February	---	---	None	Brief	Rare
			March	---	---	None	Brief	Rare
			July	---	---	None	Brief	Frequent
			August	---	---	None	Brief	Frequent
			September	---	---	None	Brief	Frequent
83:								
Mayswell	D	Very high						
			Jan-Dec	---	---	None	---	None
Rock outcrop	---	---						
			Jan-Dec	---	---	None	---	None
84:								
Meadview	B	Medium						
			Jan-Dec	---	---	None	---	None
85:								
Meadview	B	Low						
			Jan-Dec	---	---	None	---	None
Yurm family	D	Very high						
			Jan-Dec	---	---	None	---	None
86:								
Meriwhitica	D	Very high						
			Jan-Dec	---	---	None	---	None

Table 17.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Ponding			Flooding	
				Surface water depth	Duration	Frequency	Duration	Frequency
				Ft				
86:								
Rock outcrop	---	---	Jan-Dec	---	---	None	---	None
87:								
Mextank	B	Medium	Jan-Dec	---	---	None	---	None
88:								
Milkweed	C	Very high	Jan-Dec	---	---	None	---	None
Quartermaster	C	Very high	Jan-Dec	---	---	None	---	None
Buckndoe	B	Low	Jan-Dec	---	---	None	---	None
89:								
Milok	B	Low	Jan-Dec	---	---	None	---	None
Pastern	D	Very high	Jan-Dec	---	---	None	---	None
90:								
Mutang	C	Very high	Jan-Dec	---	---	None	---	None
Dutchflat	B	Low	Jan-Dec	---	---	None	---	None
91:								
Mutang	C	Very high	Jan-Dec	---	---	None	---	None
Wikieup	D	Very high	Jan-Dec	---	---	None	---	None

Table 17.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Ponding			Flooding	
				Surface water depth	Duration	Frequency	Duration	Frequency
				Ft				
91:								
Rock outcrop	---	---						
			Jan-Dec	---	---	None	---	None
92:								
Nealy	B	Very high						
			Jan-Dec	---	---	None	---	None
Shamock family	B	Very high						
			Jan-Dec	---	---	None	---	None
93:								
Nealy	B	Very high						
			Jan-Dec	---	---	None	---	None
Skelon family	C	Very high						
			Jan-Dec	---	---	None	---	None
Detrital	A	Low						
			Jan-Dec	---	---	None	---	None
94:								
Nickel family	B	Very high						
			Jan-Dec	---	---	None	---	None
Bluebird	C	Very high						
			Jan-Dec	---	---	None	---	None
95:								
Nickel	B	High						
			Jan-Dec	---	---	None	---	None
Skelon family	C	Very high						
			Jan-Dec	---	---	None	---	None
Detrital	A	Low						
			Jan-Dec	---	---	None	---	None

Table 17.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Ponding			Flooding	
				Surface water depth	Duration	Frequency	Duration	Frequency
				Ft				
96:								
Nickel family	C	Very high	Jan-Dec	---	---	None	---	None
Topawa family	C	Very high	Jan-Dec	---	---	None	---	None
Eba family	C	Very high	Jan-Dec	---	---	None	---	None
97:								
Nodman	D	Very high	Jan-Dec	---	---	None	---	None
Antares	C	Very high	Jan-Dec	---	---	None	---	None
98:								
Nodman	D	Very high	Jan-Dec	---	---	None	---	None
Courtland family	C	Very high	Jan-Dec	---	---	None	---	None
99:								
Nodman	D	Very high	Jan-Dec	---	---	None	---	None
Rock outcrop	---	---	Jan-Dec	---	---	None	---	None
100:								
Nodman	C	Very high	Jan-Dec	---	---	None	---	None
Romero family	C	Very high	Jan-Dec	---	---	None	---	None

Table 17.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Ponding			Flooding	
				Surface water depth	Duration	Frequency	Duration	Frequency
				Ft				
101:								
Nolam family	B	Low	Jan-Dec	---	---	None	---	None
Ustalfic Petrocalcids	B	Very high	Jan-Dec	---	---	None	---	None
Caralampi family	B	Medium	Jan-Dec	---	---	None	---	None
102:								
Ohaco family	C	Very high	Jan-Dec	---	---	None	---	None
Bluebird	C	High	Jan-Dec	---	---	None	---	None
103:								
Orejano	D	Very high	Jan-Dec	---	---	None	---	None
104:								
Pantak family	D	Very high	Jan-Dec	---	---	None	---	None
Taine	D	Very high	Jan-Dec	---	---	None	---	None
Terino family	D	Very high	Jan-Dec	---	---	None	---	None
105:								
Pastern	D	Very high	Jan-Dec	---	---	None	---	None
Strych	B	Low	Jan-Dec	---	---	None	---	None

Table 17.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Ponding			Flooding	
				Surface water depth	Duration	Frequency	Duration	Frequency
				Ft				
106:								
Peachsprings	B	High	Jan-Dec	---	---	None	---	None
Havasupai	C	Very high	Jan-Dec	---	---	None	---	None
107:								
Pearce	D	Very high	Jan-Dec	---	---	None	---	None
108:								
Pearce	D	Very high	Jan-Dec	---	---	None	---	None
Detrital	A	Medium	Jan-Dec	---	---	None	---	None
Rock outcrop	---	---	Jan-Dec	---	---	None	---	None
109:								
Pearce	D	Very high	Jan-Dec	---	---	None	---	None
Rock outcrop	---	---	Jan-Dec	---	---	None	---	None
110:								
Pedregosa family	D	Very high	Jan-Dec	---	---	None	---	None
Tombstone family	C	Low	Jan-Dec	---	---	None	---	None
111:								
Pidineen family	D	Very high	Jan-Dec	---	---	None	---	None

Table 17.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Ponding			Flooding	
				Surface water depth	Duration	Frequency	Duration	Frequency
				Ft				
111:								
Tricon family	D	Very high						
			Jan-Dec	---	---	None	---	None
112:								
Pits-dumps, mine	---	---						
			Jan-Dec	---	---	None	---	None
113:								
Playa	C	Negligible						
			January	0.0-0.3	Brief	Rare	---	None
			February	0.0-0.3	Brief	Rare	---	None
			March	0.0-0.3	Brief	Occasional	---	None
			June	0.0-0.3	Brief	Occasional	---	None
			July	0.0-0.3	Brief	Occasional	---	None
			August	0.0-0.3	Brief	Occasional	---	None
			November	0.0-0.3	Brief	Rare	---	None
			December	0.0-0.3	Brief	Rare	---	None
114:								
Prieta	D	Very high						
			Jan-Dec	---	---	None	---	None
Rock outcrop	---	---						
			Jan-Dec	---	---	None	---	None
115:								
Quagwa	B	Low						
			January	---	---	None	Brief	Rare
			February	---	---	None	Brief	Rare
			March	---	---	None	Brief	Rare
			July	---	---	None	Brief	Rare
			August	---	---	None	Brief	Rare
			September	---	---	None	Brief	Rare

Table 17.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Ponding			Flooding	
				Surface water depth	Duration	Frequency	Duration	Frequency
				Ft				
116:								
Razorback	D	Very high						
			Jan-Dec	---	---	None	---	None
117:								
Razorback	D	Very high						
			Jan-Dec	---	---	None	---	None
Rock outcrop	---	---						
			Jan-Dec	---	---	None	---	None
118:								
Razorback	D	Very high						
			Jan-Dec	---	---	None	---	None
Rock outcrop	---	---						
			Jan-Dec	---	---	None	---	None
119:								
Rift	C	High						
			January	---	---	None	Very brief	Rare
			February	---	---	None	Very brief	Rare
			March	0.0-0.3	Very brief	Rare	Very brief	Rare
			June	0.0-0.3	Very brief	Rare	Very brief	Frequent
			July	0.0-0.3	Very brief	Rare	Very brief	Frequent
			August	0.0-0.3	Very brief	Rare	Very brief	Frequent
120:								
Rift	C	High						
			January	---	---	None	Very brief	Rare
			February	---	---	None	Very brief	Rare
			March	0.0-0.3	Very brief	Rare	Very brief	Rare
			June	0.0-0.3	Very brief	Rare	Very brief	Frequent
			July	0.0-0.3	Very brief	Rare	Very brief	Frequent
			August	0.0-0.3	Very brief	Rare	Very brief	Frequent
121:								
Rillino family	B	Very low						
			Jan-Dec	---	---	None	---	None

Table 17.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Ponding			Flooding	
				Surface water depth	Duration	Frequency	Duration	Frequency
				Ft				
121:								
Shamock family	B	Very high	Jan-Dec	---	---	None	---	None
Dutchflat	B	Low	Jan-Dec	---	---	None	---	None
122:								
Rock outcrop	---	---	Jan-Dec	---	---	None	---	None
Appleseed	D	Very high	Jan-Dec	---	---	None	---	None
123:								
Rock outcrop	---	---	Jan-Dec	---	---	None	---	None
Pearce	D	Very high	Jan-Dec	---	---	None	---	None
124:								
Rock outcrop	---	---	Jan-Dec	---	---	None	---	None
Razorback	D	Very high	Jan-Dec	---	---	None	---	None
125:								
Rock outcrop	---	---	Jan-Dec	---	---	None	---	None
Torriorthents	D	---	Jan-Dec	---	---	None	---	None
126:								
Rock outcrop	---	---	Jan-Dec	---	---	None	---	None

Table 17.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Ponding			Flooding	
				Surface water depth	Duration	Frequency	Duration	Frequency
				Ft				
126:								
Torriorthents	D	---	Jan-Dec	---	---	None	---	None
127:								
Rock outcrop	---	---	Jan-Dec	---	---	None	---	None
Valena	D	Very high	Jan-Dec	---	---	None	---	None
Kopie family	D	Very high	Jan-Dec	---	---	None	---	None
128:								
Rolie	D	Very high	Jan-Dec	---	---	None	---	None
Dean	B	Medium	Jan-Dec	---	---	None	---	None
129:								
Romero	D	Very high	Jan-Dec	---	---	None	---	None
Chiricahua	D	Very high	Jan-Dec	---	---	None	---	None
Rock outcrop	---	---	Jan-Dec	---	---	None	---	None
130:								
Romero	D	Very high	Jan-Dec	---	---	None	---	None
Lampshire	D	Very high	Jan-Dec	---	---	None	---	None
Rock outcrop	---	---	Jan-Dec	---	---	None	---	None

Table 17.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Ponding			Flooding	
				Surface water depth	Duration	Frequency	Duration	Frequency
				Ft				
131:								
Rositas	A	Very low						
			July	---	---	None	Very brief	Very rare
			August	---	---	None	Very brief	Very rare
			September	---	---	None	Very brief	Very rare
132:								
Shortbread	A	Negligible						
			Jan-Dec	---	---	None	---	None
133:								
Shortbread	B	Negligible						
			January	0.0-0.3	Brief	Rare	---	None
			February	0.0-0.3	Brief	Rare	---	None
			March	0.0-0.3	Brief	Occasional	---	None
			June	0.0-0.3	Brief	Occasional	---	None
			July	0.0-0.3	Brief	Occasional	---	None
			August	0.0-0.3	Brief	Occasional	---	None
			November	0.0-0.3	Brief	Rare	---	None
			December	0.0-0.3	Brief	Rare	---	None
Kurstan family	B	Very low						
			Jan-Dec	---	---	None	---	None
Dusty	C	High						
			March	0.0-0.3	Brief	Rare	---	None
			June	0.0-0.3	Brief	Rare	---	None
			July	0.0-0.3	Brief	Rare	---	None
			August	0.0-0.3	Brief	Rare	---	None
134:								
Skelon family	C	Very high						
			Jan-Dec	---	---	None	---	None
Greyeagle family	D	Very high						
			Jan-Dec	---	---	None	---	None
Detrital	A	Low						
			Jan-Dec	---	---	None	---	None

Table 17.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Ponding			Flooding	
				Surface water depth	Duration	Frequency	Duration	Frequency
				Ft				
135:								
Skelon family	C	Very high	Jan-Dec	---	---	None	---	None
Pinaleno family	B	Very low	Jan-Dec	---	---	None	---	None
136:								
Storybook	A	Low	Jan-Dec	---	---	None	---	None
137:								
Stronghold family	B	Low	Jan-Dec	---	---	None	---	None
McAllister family	C	High	Jan-Dec	---	---	None	---	None
138:								
Sunrock	D	Very high	Jan-Dec	---	---	None	---	None
139:								
Sunrock	D	Very high	Jan-Dec	---	---	None	---	None
Rock outcrop	---	---	Jan-Dec	---	---	None	---	None
140:								
Superstition family	A	Medium	Jan-Dec	---	---	None	---	None
Carrwash	B	Low	Jan-Dec	---	---	None	---	None
141:								
Taine	D	Very high	Jan-Dec	---	---	None	---	None

Table 17.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Ponding			Flooding	
				Surface water depth	Duration	Frequency	Duration	Frequency
				Ft				
142:								
Thimble	D	Very high						
			Jan-Dec	---	---	None	---	None
Rock outcrop	---	---						
			Jan-Dec	---	---	None	---	None
143:								
Tombstone family	B	Low						
			Jan-Dec	---	---	None	---	None
Caralampi family	B	Medium						
			Jan-Dec	---	---	None	---	None
Nolam family	B	Medium						
			Jan-Dec	---	---	None	---	None
144:								
Torriorthents	C	---						
			Jan-Dec	---	---	None	---	None
145:								
Torriorthents	D	---						
			Jan-Dec	---	---	None	---	None
Haplocambids	D	---						
			Jan-Dec	---	---	None	---	None
146:								
Torriorthents	D	---						
			Jan-Dec	---	---	None	---	None
Rock outcrop	---	---						
			Jan-Dec	---	---	None	---	None
147:								
Tovar	C	Very high						
			Jan-Dec	---	---	None	---	None

Table 17.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Ponding			Flooding	
				Surface water depth	Duration	Frequency	Duration	Frequency
				Ft				
147:								
Grandwash	D	Very high						
			Jan-Dec	---	---	None	---	None
148:								
Truxton	B	Low						
			March	---	---	None	Brief	Very rare
			July	---	---	None	Brief	Rare
			August	---	---	None	Brief	Rare
			September	---	---	None	Brief	Rare
Truxton, frequently flooded	B	Low						
			March	---	---	None	Brief	Rare
			June	---	---	None	Brief	Rare
			July	---	---	None	Brief	Frequent
			August	---	---	None	Brief	Frequent
			September	---	---	None	Brief	Frequent
149:								
Tumarion	D	Very high						
			Jan-Dec	---	---	None	---	None
150:								
Tumarion	D	Very high						
			Jan-Dec	---	---	None	---	None
Nickel family	B	High						
			Jan-Dec	---	---	None	---	None
151:								
Tumarion	D	Very high						
			Jan-Dec	---	---	None	---	None
Nickel family	B	High						
			Jan-Dec	---	---	None	---	None
152:								
Tyro	D	Very high						
			Jan-Dec	---	---	None	---	None

Table 17.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Ponding			Flooding	
				Surface water depth	Duration	Frequency	Duration	Frequency
				Ft				
153:								
Tyro	D	Very high	Jan-Dec	---	---	None	---	None
154:								
Tyro	D	Very high	Jan-Dec	---	---	None	---	None
Sunrock	D	Very high	Jan-Dec	---	---	None	---	None
155:								
Urban land	---	---	Jan-Dec	---	---	None	---	None
Calvista family	D	Very high	Jan-Dec	---	---	None	---	None
156:								
Ustorthents	D	Very high	Jan-Dec	---	---	None	---	None
Rock outcrop	---	---	Jan-Dec	---	---	None	---	None
157:								
Valena	D	Very high	Jan-Dec	---	---	None	---	None
Carri	B	Very high	Jan-Dec	---	---	None	---	None
158:								
Valena	D	Very high	Jan-Dec	---	---	None	---	None
Rock outcrop	---	---	Jan-Dec	---	---	None	---	None
Carri family	B	High	Jan-Dec	---	---	None	---	None

Table 17.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Ponding			Flooding	
				Surface water depth	Duration	Frequency	Duration	Frequency
				Ft				
159:								
Vekol family	D	Very high	Jan-Dec	---	---	None	---	None
160:								
Vekol family	D	High	Jan-Dec	---	---	None	---	None
161:								
Vekol family	D	Very high	Jan-Dec	---	---	None	---	None
Whitehills	C	Very high	Jan-Dec	---	---	None	---	None
162:								
Vock	D	Very high	Jan-Dec	---	---	None	---	None
Elements	B	High	Jan-Dec	---	---	None	---	None
Rock outcrop	---	---	Jan-Dec	---	---	None	---	None
163:								
Vock	D	Very high	Jan-Dec	---	---	None	---	None
Elements	B	High	Jan-Dec	---	---	None	---	None
Rock outcrop	---	---	Jan-Dec	---	---	None	---	None
164:								
Water	---	---	Jan-Dec	---	---	None	---	None

Table 17.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Ponding			Flooding	
				Surface water depth	Duration	Frequency	Duration	Frequency
				Ft				
165:								
White House	C	Very high	Jan-Dec	---	---	None	---	None
166:								
White House family	C	Very high	Jan-Dec	---	---	None	---	None
167:								
Whitehills	C	Very high	Jan-Dec	---	---	None	---	None
168:								
Wodomont	B	Very high	Jan-Dec	---	---	None	---	None
Kydestea	D	Very high	Jan-Dec	---	---	None	---	None
169:								
Wodomont	B	Very high	Jan-Dec	---	---	None	---	None
Metuck	D	Very high	Jan-Dec	---	---	None	---	None
Rock outcrop	---	---	Jan-Dec	---	---	None	---	None
170:								
Wodomont	D	Very high	Jan-Dec	---	---	None	---	None
Rock outcrop	---	---	Jan-Dec	---	---	None	---	None

Table 17.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Ponding			Flooding	
				Surface water depth	Duration	Frequency	Duration	Frequency
				Ft				
165:								
White House	C	Very high	Jan-Dec	---	---	None	---	None
166:								
White House family	C	Very high	Jan-Dec	---	---	None	---	None
167:								
Whitehills	C	Very high	Jan-Dec	---	---	None	---	None
168:								
Wodomont	B	Very high	Jan-Dec	---	---	None	---	None
Kydestea	D	Very high	Jan-Dec	---	---	None	---	None
169:								
Wodomont	B	Very high	Jan-Dec	---	---	None	---	None
Metuck	D	Very high	Jan-Dec	---	---	None	---	None
Rock outcrop	---	---	Jan-Dec	---	---	None	---	None
170:								
Wodomont	D	Very high	Jan-Dec	---	---	None	---	None
Rock outcrop	---	---	Jan-Dec	---	---	None	---	None

Table 18.--Taxonomic Classification of the Soils

(An asterisk in the first column indicates a taxadjunct to the series. See text for a description of those characteristics that are outside the range of the series.)

Soil name	Family or higher taxonomic class
Alko family	Loamy, mixed, superactive, thermic, shallow Typic Haplodurids
Antares	Loamy-skeletal, mixed, superactive, calcareous, thermic, shallow Typic Torriorthents
Appleseed	Loamy-skeletal, mixed, superactive, calcareous, hyperthermic Lithic Torriorthents
Aridic Argiustolls	Aridic Argiustolls
*Arivaca	Fine, smectitic, thermic Ustic Haplargids
Arizo	Sandy-skeletal, mixed, thermic Typic Torriorthents
Azure	Loamy-skeletal, mixed, superactive, thermic, shallow Typic Haplargids
Birdsbeak	Clayey-skeletal, mixed, active, mesic, shallow Ustic Haplargids
Blind	Loamy-skeletal, mixed, superactive, thermic Typic Haplargids
Bluebird	Loamy-skeletal, mixed, superactive, thermic Typic Haplargids
Buckndoe	Loamy-skeletal, mixed, superactive, mesic Aridic Calciustepts
Calvista family	Loamy, mixed, superactive, thermic Lithic Haplocalcids
Caralampi family	Loamy-skeletal, mixed, superactive, thermic Ustic Haplargids
Carri	Fine-loamy, mixed, superactive, mesic Aridic Haplustalfs
Carri family	Fine-loamy, mixed, superactive, mesic Aridic Haplustalfs
Carrizo	Sandy-skeletal, mixed, hyperthermic Typic Torriorthents
Carrwash	Sandy-skeletal, mixed, hyperthermic Typic Torriorthents
Chiricahua	Clayey, mixed, superactive, thermic, shallow Ustic Haplargids
Chuckawalla	Loamy-skeletal, mixed, superactive, hyperthermic Typic Calciargids
Circular	Coarse-loamy, mixed, superactive, calcareous, thermic Typic Torriorthents
Cod	Coarse-loamy, mixed, superactive, thermic Durinodic Haplocalcids
*Cordes	Coarse-loamy, mixed, superactive, nonacid, mesic Ustic Torrifluvents
Courtland family	Fine-loamy, mixed, superactive, thermic Ustic Haplargids
Cupel	Loamy-skeletal, mixed, superactive, thermic Lithic Haplocambids
Cyclopic	Clayey-skeletal, smectitic, thermic Typic Argidurids
Dean	Fine-loamy, carbonatic, mesic Ustic Haplocalcids
Deluge	Loamy-skeletal, mixed, superactive, thermic Typic Argidurids
Detrital	Loamy-skeletal, mixed, superactive, thermic Typic Haplocambids
Dusty	Fine-loamy, mixed, superactive, thermic Typic Natrargids
Dutchflat	Fine-loamy, mixed, superactive, thermic Typic Haplargids
*Dye	Clayey, smectitic, mesic Lithic Haplustalfs
Eba family	Clayey-skeletal, mixed, superactive, thermic Typic Calciargids
Elements	Loamy-skeletal, mixed, superactive, mesic Ustic Haplargids
Faraway	Loamy-skeletal, mixed, superactive, mesic Lithic Haplustolls
Fig	Loamy-skeletal, mixed, superactive, nonacid, thermic, shallow Typic Torriorthents
Filaree	Coarse-loamy, mixed, superactive, thermic Typic Haplocambids
Franconia	Sandy, mixed, thermic Typic Torrifluvents
Garnet	Fine-loamy over sandy or sandy-skeletal, mixed, superactive, thermic Typic Haplargids

Table 18.--Taxonomic Classification of the Soils--Continued

Soil name	Family or higher taxonomic class
Goesling family	Fine-loamy, mixed, superactive, mesic Aridic Haplustalfs
Goldroad	Loamy-skeletal, mixed, superactive, calcareous, hyperthermic Lithic Torriorthents
Gonzales	Clayey, smectitic, thermic, shallow Ustic Haplocambids
Goodsprings family	Loamy, mixed, superactive, thermic, shallow Typic Petrocalcids
Gotchell	Loamy-skeletal, mixed, superactive, thermic, shallow Typic Haplodurids
Graham	Clayey, smectitic, thermic Lithic Ustic Haplargids
Grandwash	Clayey-skeletal, mixed, superactive, mesic Lithic Haplustalfs
Greyeagle family	Loamy-skeletal, mixed, superactive, thermic, shallow Typic Haplodurids
Gypsids	Gypsids
Haplocambids	Haplocambids
Haplogypsids	Haplogypsids
Hassell family	Fine, smectitic, thermic Ustertic Haplargids
Havasupai	Loamy-skeletal, mixed, superactive, mesic, shallow Calcic Petrocalcids
Hindu	Loamy-skeletal, mixed, superactive, calcareous, thermic Lithic Torriorthents
Hooks family	Fine-loamy, mixed, superactive, thermic Ustic Haplocambids
Hosta family	Fine, mixed, superactive, mesic Aridic Haplustalfs
House Mountain family	Loamy, mixed, superactive, nonacid, thermic Lithic Torriorthents
Huevi	Loamy-skeletal, mixed, superactive, hyperthermic Durinodic Haplocalcids
Hulda	Loamy-skeletal, mixed, superactive, calcareous, thermic Lithic Torriorthents
Ireteba family	Coarse-loamy, mixed, superactive, calcareous, thermic Typic Torrifluvents
Jagerson	Fine-loamy, mixed, superactive, thermic Typic Calciargids
Kingtut	Fine, smectitic, mesic, shallow Ustalfic Petrocalcids
Kinley	Coarse-loamy, mixed, superactive, thermic Typic Haplocalcids
Kopie family	Loamy, mixed, active, mesic Lithic Haplustepts
Kurstan family	Coarse-loamy, mixed, superactive, thermic Durinodic Haplocalcids
Kydestea	Loamy-skeletal, mixed, superactive, calcareous, mesic Aridic Lithic Ustorthents
Lampshire	Loamy-skeletal, mixed, superactive, nonacid, thermic Lithic Ustic Torriorthents
Lithic Haplustolls	Lithic Haplustolls
Lostman	Coarse-loamy, mixed, superactive, thermic Typic Haplocambids
Luzena	Clayey, smectitic, mesic Lithic Argiustolls
Lykorly	Fine-loamy, mixed, superactive, mesic Aridic Haplustalfs
*Manikan	Fine-loamy, mixed, superactive, nonacid, mesic Aridic Ustifluvents
Mathis family	Sandy-skeletal, mixed, mesic Ustic Torriorthents
Mayswell	Clayey-skeletal, smectitic, thermic Lithic Haplargids
McAllister family	Fine-loamy, mixed, superactive, thermic Ustic Calciargids
Meadview	Sandy-skeletal, mixed, thermic Durinodic Haplocalcids
Meriwhitica	Loamy-skeletal, mixed, superactive, calcareous, mesic Lithic Ustic Torriorthents

Table 18.--Taxonomic Classification of the Soils--Continued

Soil name	Family or higher taxonomic class
Metuck	Loamy-skeletal, mixed, superactive, calcareous, mesic Aridic Lithic Ustorthents
Mextank	Loamy-skeletal, mixed, superactive, mesic Aridic Calciustolls
Milkweed	Loamy-skeletal, mixed, superactive, mesic, shallow Petrocalcic Calciustepts
Milok	Coarse-loamy, mixed, superactive, mesic Ustic Haplocalcids
Mutang	Clayey, mixed, superactive, thermic, shallow Typic Haplargids
Nealy	Fine-loamy, mixed, superactive, thermic Typic Argidurids
Nickel	Loamy-skeletal, mixed, superactive, thermic Typic Haplocalcids
Nickel family	Loamy-skeletal, mixed, superactive, thermic Typic Haplocalcids
Nodman	Loamy-skeletal, mixed, superactive, thermic, shallow Ustic Haplargids
*Nodman	Loamy-skeletal, mixed, superactive, thermic, shallow Typic Haplargids
Nolam family	Loamy-skeletal, mixed, superactive, thermic Ustic Calciargids
*Nuffel	Fine-silty, mixed, superactive, nonacid, mesic Typic Torrifluvents
Ohaco family	Fine, mixed, superactive, thermic Typic Argidurids
Orejano	Clayey-skeletal over sandy or sandy-skeletal, mixed, superactive, mesic Aridic Argiustolls
Pantak family	Loamy-skeletal, mixed, superactive, thermic Lithic Ustic Haplargids
Pastern	Loamy, mixed, superactive, mesic, shallow Ustic Petrocalcids
Peachsprings	Fine-loamy, mixed, superactive, mesic Ustic Haplocalcids
Pearce	Loamy-skeletal, mixed, superactive, calcareous, thermic Lithic Torriorthents
Pedregosa family	Loamy-skeletal, mixed, superactive, thermic, shallow Ustic Petrocalcids
Pidineen family	Loamy, mixed, superactive, mesic, shallow Petrocalcic Calciustolls
Pinaleno family	Loamy-skeletal, mixed, superactive, thermic Typic Calciargids
Prieta	Clayey-skeletal, mixed, superactive, mesic Lithic Ustic Haplargids
Promontory	Loamy, mixed, superactive, mesic, shallow Ustic Petrocalcids
Quagwa	Fine-loamy, mixed, superactive, mesic Ustic Haplargids
Quartermaster	Fine-loamy, mixed, superactive, mesic Aridic Calciustepts
Razorback	Loamy-skeletal, mixed, superactive, calcareous, thermic Lithic Torriorthents
Rift	Fine-silty, mixed, superactive, calcareous, thermic Typic Torrifluvents
Rillino family	Coarse-loamy, mixed, superactive, thermic Typic Haplocalcids
Riverbend	Sandy-skeletal, mixed, hyperthermic Typic Haplocalcids
Rolie	Loamy, mixed, superactive, mesic, shallow Ustic Petrocalcids
Romero	Loamy-skeletal, mixed, superactive, nonacid, thermic, shallow Ustic Torriorthents
Romero family	Loamy-skeletal, mixed, superactive, nonacid, thermic, shallow Ustic Torriorthents
Rositas	Mixed, hyperthermic Typic Torripsamments
Shamock family	Coarse-loamy, mixed, superactive, thermic Typic Haplodurids
Shortbread	Sandy, mixed, thermic Typic Torriorthents
Skelon family	Loamy-skeletal, mixed, superactive, thermic Typic Haplodurids
Storybook	Loamy-skeletal, mixed, superactive, calcareous, thermic Typic Torriorthents
Stronghold family	Coarse-loamy, mixed, superactive, thermic Ustic Haplocalcids

Table 18.--Taxonomic Classification of the Soils--Continued

Soil name	Family or higher taxonomic class
Strych	Loamy-skeletal, mixed, superactive, mesic Ustic Haplocalcids
Sunrock	Loamy-skeletal, mixed, superactive, calcareous, hyperthermic Lithic Torriorthents
Sunstroke	Loamy-skeletal, mixed, superactive, thermic Typic Haplodurids
Superstition family	Sandy, mixed, hyperthermic Typic Haplocalcids
Taine	Clayey-skeletal, smectitic, mesic Lithic Ustic Haplargids
*Taine	Clayey-skeletal, smectitic, thermic Lithic Ustic Haplargids
Terino family	Loamy-skeletal, mixed, superactive, thermic, shallow Ustalfic Petrocalcids
Thimble	Clayey-skeletal, smectitic, mesic Lithic Argiustolls
Thunderbird	Fine, smectitic, mesic Aridic Argiustolls
Tombstone family	Loamy-skeletal, mixed, superactive, thermic Ustic Haplocalcids
Topawa family	Loamy-skeletal, mixed, superactive, thermic Typic Haplargids
Torriorthents	Torriorthents
*Tovar	Fine, smectitic, mesic Vertic Haplustalfs
Tricon family	Fine, mixed, superactive, mesic Petrocalcic Paleustolls
Truxton	Coarse-silty, mixed, superactive, calcareous, mesic Ustic Torriorthents
Tumarion	Loamy-skeletal, mixed, superactive, thermic, shallow Typic Haplodurids
Tyro	Loamy-skeletal, mixed, superactive, hyperthermic, shallow Typic Haplodurids
Ustalfic Petrocalcids	Ustalfic Petrocalcids
Ustorthents	Ustorthents
Valena	Loamy, mixed, superactive, mesic Lithic Haplustalfs
Vekol family	Fine, mixed, superactive, thermic Typic Haplargids
Vock	Loamy-skeletal, mixed, superactive, mesic, shallow Ustic Haplocambids
White House	Fine, mixed, superactive, thermic Ustic Haplargids
White House family	Fine, mixed, superactive, thermic Ustic Haplargids
Whitehills	Loamy-skeletal, mixed, superactive, thermic Typic Argidurids
Wikieup	Loamy-skeletal, mixed, superactive, nonacid, thermic, shallow Typic Torriorthents
Wodomont	Loamy-skeletal, mixed, superactive, mesic Lithic Calciustepts
Yahana family	Fine-silty, mixed, superactive, hyperthermic Typic Haplosalids
Yurm family	Loamy-skeletal, mixed, superactive, thermic, shallow Calcic Petrocalcids
Zibate family	Loamy-skeletal, mixed, superactive, thermic Lithic Haplargids

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SECTIONALIZED TOWNSHIP

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

N

INDEX TO MAP SHEETS
MOHAVE COUNTY, ARIZONA
CENTRAL PART

1 0 1 2 3
MILES

1 0 1 2 3 4 5 6
KILOMETERS

SCALE = 1:275000

UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MOHAVE COUNTY AREA, ARIZONA, CENTRAL PART

UNITED STATES DEPARTMENT OF THE INTERIOR, BUREAU OF LAND MANAGEMENT
BUREAU OF INDIAN AFFAIRS, NATIONAL PARK SERVICE
ARIZONA AGRICULTURAL EXPERIMENT STATION

SOIL LEGEND

SYMBOL	NAME
1	Alko family cobbly loam, 0 to 25 percent slopes
2	Alko family gravelly sandy loam, 1 to 15 percent slopes
3	Appleseed-Huevi association, 4 to 30 percent slopes
4	Aridic Argiustolls-Lithic Haplustolls complex, 1 to 40 percent slopes
5	Arizo-Detrital-Nickel complex, 2 to 6 percent slopes
6	Arizo-Franconia-Riverwash complex, 1 to 3 percent slopes
7	Arizo-Riverwash complex, 0 to 1 percent slopes
8	Arizo-Riverwash complex, 1 to 4 percent slopes
9	Arizo-Riverwash complex, dry, 0 to 1 percent slopes
10	Arizo-Riverwash complex, moist, 1 to 3 percent slopes
11	Azure-Detrital-Antares complex, 5 to 30 percent slopes
12	Birdsbeak very channery loam, 10 to 35 percent slopes
13	Bluebird-Detrital complex, 2 to 15 percent slopes, very stony
14	Bluebird-Lostman complex, 1 to 5 percent slopes
15	Carrizo complex, 1 to 5 percent slopes
16	Carrizo-Riverwash complex, 0 to 1 percent slopes
17	Carrizo-Riverwash complex, 3 to 8 percent slopes
18	Chuckawalla-Riverbend complex, 2 to 15 percent slopes
19	Circular complex, 1 to 3 percent slopes
20	Circular-Dusty complex, 0 to 4 percent slopes
21	Cod gravelly sandy loam, 2 to 6 percent slopes
22	Cordes-Manikan-Riverwash complex, 1 to 6 percent slopes
23	Cupel-Rock outcrop complex, 35 to 65 percent slopes
24	Cyclopic very stony loam, 3 to 8 percent slopes
25	Deluge-Gotchell-Sunstroke complex, 3 to 7 percent slopes
26	Detrital-Bluebird complex, 2 to 12 percent slopes
27	Detrital-Nealy complex, 1 to 6 percent slopes
28	Detrital-Nickel complex, dry, 1 to 6 percent slopes
29	Detrital-Nickel family complex, 1 to 4 percent slopes
30	Detrital-Skelon family complex, 1 to 5 percent slopes
31	Dusty-Kurstan family complex, 1 to 6 percent slopes
32	Dutchflat sandy loam, 0 to 2 percent slopes
33	Dye-Tovar-Rock outcrop complex, 6 to 25 percent slopes
34	Faraway-Rock outcrop complex, 30 to 70 percent slopes
35	Fig-Blind-Nodman complex, 30 to 70 percent slopes
36	Filaree gravelly sandy loam, 2 to 6 percent slopes
37	Filaree-Dutchflat complex, 2 to 6 percent slopes
38	Garnet-Dutchflat complex, 2 to 6 percent slopes
39	Goesling family silt loam, 3 to 8 percent slopes
40	Goldroad-Rock outcrop complex, 15 to 35 percent slopes
41	Goldroad-Rock outcrop complex, 35 to 65 percent slopes
42	Gonzales-Rock outcrop complex, 15 to 35 percent slopes
43	Goodsprings family gravelly sandy loam, 10 to 35 percent slopes
44	Gotchel-Sunstroke complex, 6 to 35 percent slopes
45	Graham-Arivaca complex, 2 to 15 percent slopes
46	Graham-Rock outcrop complex, 10 to 40 percent slopes
47	Grandwash extremely flaggy sandy loam, 2 to 25 percent slopes
48	Greyeagle family extremely gravelly coarse sandy loam, 15 to 40 percent slopes
49	Greyeagle family extremely gravelly sandy loam, 35 to 60 percent slopes
50	Greyeagle family-Cyclopic complex, 3 to 12 percent slopes
51	Greyeagle-Skelon families complex, 2 to 12 percent slopes
52	Greyeagle-Skelon families complex, moist, 4 to 25 percent slopes
53	Gypsids, 3 to 50 percent slopes
54	Haplogypsids, eroded-Haplogypsids complex, 35 to 75 percent slopes
55	Hassell family-Lampshire-Rock outcrop complex, 10 to 30 percent slopes
56	Hindu-Rock outcrop complex, 5 to 45 percent slopes
57	Hooks-Courtland families complex, 1 to 5 percent slopes
58	Hosta family sandy loam, 1 to 8 percent slopes
59	House Mountain family-Calvista family-Rock outcrop complex, 10 to 35 percent slopes
60	Huevi extremely cobbly sandy loam, 2 to 6 percent slopes
61	Huevi very gravelly loam, 10 to 40 percent slopes
62	Huevi very gravelly sandy loam, 15 to 35 percent slopes
63	Huevi-Carrizo complex, 1 to 25 percent slopes
64	Huevi-Carrwash complex, 2 to 75 percent slopes
65	Huevi-Sunrock-Rock outcrop complex, 20 to 70 percent slopes
66	Hulda extremely gravelly sandy loam, 20 to 65 percent slopes
67	Hulda-Rock outcrop complex, 20 to 65 percent slopes
68	Hulda-Rock outcrop complex, moist, 35 to 70 percent slopes
69	Ireteba family-Arizo complex, 1 to 3 percent slopes
70	Jagerson very gravelly loam, 0 to 4 percent slopes
71	Jagerson-Nealy complex, 1 to 3 percent slopes
72	Kingtut-Promontory complex, 3 to 12 percent slopes
73	Kinley gravelly loamy sand, 15 to 35 percent slopes
74	Kurstan family-Dusty complex, 2 to 6 percent slopes
75	Lampshire-Rock outcrop complex, 20 to 60 percent slopes
76	Lostman gravelly sandy loam, moist, 1 to 5 percent slopes
77	Lostman sandy loam, 1 to 4 percent slopes
78	Luzena-Thunderbird complex, 3 to 20 percent slopes
79	Lykorly gravelly loam, 1 to 4 percent slopes
80	Lykorly silt loam, moist, 1 to 5 percent slopes
81	Manikan-Nuffel complex, 1 to 3 percent slopes
82	Mathis family-Riverwash complex, 1 to 4 percent slopes
83	Mayswell-Rock outcrop complex, 5 to 40 percent slopes
84	Meadview extremely gravelly sandy loam, 5 to 40 percent slopes
85	Meadview-Yurm family complex, 4 to 25 percent slopes
86	Meriwhitica-Rock outcrop complex, 5 to 35 percent slopes
87	Mextank very gravelly sandy loam, 2 to 15 percent slopes
88	Milkweed-Quartermaster-Buckndoe complex, 2 to 20 percent slopes
89	Milok-Pastern complex, 4 to 12 percent slopes
90	Mutang-Dutchflat complex, 0 to 3 percent slopes
91	Mutang-Wikieup-Rock outcrop complex, 3 to 30 percent slopes
92	Nealy-Shamock family complex, 2 to 8 percent slopes
93	Nealy-Skelon family-Detrital complex, 3 to 10 percent slopes
94	Nickel family-Bluebird complex, 15 to 45 percent slopes
95	Nickel-Skelon family-Detrital complex, 3 to 10 percent slopes
96	Nickel-Topawa-Eba families complex, 10 to 50 percent slopes
97	Nodman-Antares complex, 3 to 15 percent slopes
98	Nodman-Courtland family complex, 2 to 20 percent slopes
99	Nodman-Rock outcrop complex, 15 to 65 percent slopes
100	Nodman-Romero family complex, 15 to 65 percent slopes
101	Nolam family-Ustalfic Petrocalcids-Caralampi family complex, 1 to 15 percent slopes
102	Ohaco family-Bluebird complex, 2 to 8 percent slopes
103	Orejano gravelly sandy loam, 4 to 35 percent slopes
104	Pantak family-Taine-Terino family complex, 15 to 65 percent slopes
105	Pastern-Strych complex, 4 to 20 percent slopes
106	Peachsprings-Havasupai complex, 2 to 35 percent slopes
107	Pearce extremely stony loam, 4 to 15 percent slopes
108	Pearce-Detrital-Rock outcrop complex, 20 to 75 percent slopes
109	Pearce-Rock outcrop complex, 5 to 65 percent slopes
110	Pedregosa-Tombstone families complex, 1 to 15 percent slopes
111	Pidineen-Tricon families complex, 2 to 10 percent slopes
112	Pits-Dumps complex
113	Playa
114	Prieta-Rock outcrop complex, 2 to 35 percent slopes
115	Quagwa silt loam, 1 to 3 percent slopes
116	Razorback extremely gravelly sandy loam, 15 to 35 percent slopes
117	Razorback-Rock outcrop complex, 15 to 70 percent slopes
118	Razorback-Rock outcrop complex, 20 to 70 percent slopes
119	Rift silt loam, 0 to 1 percent slopes, frequently flooded
120	Rift silty clay loam, 0 to 1 percent slopes
121	Rillino family-Shamock family-Dutchflat complex, 1 to 4 percent slopes
122	Rock outcrop-Appleseed complex, 35 to 75 percent slopes
123	Rock outcrop-Pearce complex, 35 to 75 percent slopes
124	Rock outcrop-Razorback complex, 20 to 70 percent slopes
125	Rock outcrop-Torriorthents complex, 35 to 75 percent slopes
126	Rock outcrop-Torriorthents, cool complex, 35 to 75 percent slopes
127	Rock outcrop-Valena-Kopie family complex, 5 to 35 percent slopes
128	Rolie-Dean complex, 2 to 20 percent slopes
129	Romero-Chiricahua-Rock outcrop complex, 5 to 35 percent slopes
130	Romero-Lampshire-Rock outcrop complex, 35 to 70 percent slopes
131	Rositas sand, 4 to 30 percent slopes
132	Shortbread loamy sand, 1 to 4 percent slopes
133	Shortbread-Kurstan family-Dusty complex, 0 to 7 percent slopes
134	Skelon family-Greyeagle family-Detrital complex, 3 to 30 percent slopes
135	Skelon-Pinaleno families complex, 1 to 4 percent slopes
136	Storybook very gravelly loam, 1 to 3 percent slopes
137	Stronghold-McAllister families complex, 2 to 15 percent slopes
138	Sunrock extremely gravelly sandy loam, 15 to 35 percent slopes
139	Sunrock-Rock outcrop complex, 30 to 65 percent slopes
140	Superstition family-Carrwash complex, 35 to 75 percent slopes
141	Taine extremely cobbly loam, 12 to 35 percent
142	Thimble-Rock outcrop complex, 35 to 65 percent slopes
143	Tombstone-Caralampi-Nolam families complex, 2 to 30 percent slopes
144	Torriorthents, 25 to 75 percent slopes
145	Torriorthents, gypsic-Haplocambids, gypsic complex, 3 to 15 percent slopes
146	Torriorthents-Rock outcrop complex, 25 to 75 percent slopes
147	Tovar-Grandwash complex, 6 to 25 percent slopes
148	Truxton complex, 1 to 3 percent slopes
149	Tumarion very cobbly loam, 2 to 15 percent slopes
150	Tumarion-Nickel family complex, 8 to 35 percent slopes
151	Tumarion-Nickel family complex, moist, 5 to 40 percent slopes
152	Tyro extremely stony sandy loam, 3 to 35 percent slopes
153	Tyro very gravelly sandy loam, 3 to 30 percent slopes
154	Tyro-Sunrock complex, 3 to 15 percent slopes
155	Urban land-Calvista family complex, 2 to 10 percent slopes
156	Ustorthents-Rock outcrop complex, 35 to 90 percent slopes
157	Valena-Carri complex, 3 to 15 percent slopes
158	Valena-Rock outcrop-Carri family complex, 1 to 25 percent slopes
159	Vekol family gravelly loamy sand, 2 to 7 percent slopes
160	Vekol family loam, 1 to 3 percent slopes
161	Vekol family-Whitehills complex, 2 to 7 percent slopes
162	Vock-Elements-Rock outcrop complex, 30 to 65 percent slopes
163	Vock-Elements-Rock outcrop complex, cool, 30 to 65 percent slopes
164	Water
165	White House gravelly loamy sand, 2 to 15 percent slopes
166	White House family very gravelly loamy sand, 2 to 15 percent slopes
167	Whitehills very gravelly loam, 1 to 5 percent slopes
168	Wodomont-Kydestea complex, 5 to 40 percent slopes
169	Wodomont-Metuck-Rock outcrop complex, 25 to 45 percent slopes
170	Wodomont-Rock outcrop complex, 5 to 40 percent slopes
171	Yahana family silty clay loam, 1 to 3 percent slopes
172	Zibate family extremely gravelly sandy loam, 5 to 35 percent slopes
173	Zibate family very stony loam, 12 to 30 percent slopes
174	Zibate family-Dutchflat-Tumarion complex, 4 to 30 percent slopes

CONVENTIONAL AND SPECIAL SYMBOLS LEGEND

CULTURAL FEATURES

BOUNDARIES

National, state, or province

County or parish

Limit of soil survey (label)

Field sheet matchline and neatline

ROAD EMBLEM & DESIGNATIONS

State (52)

SPECIAL SYMBOLS FOR SOIL SURVEY

SOIL DELINEATIONS AND SYMBOLS 1 15

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MOHAVE COUNTY, ARIZONA, CENTRAL PART
CALLVILLE BAY QUADRANGLE
SHEET NUMBER 1 OF 80

114°45′00″ 114°42′30″ 114°40′00″ 114°37′30″

R. 65 E. R. 66 E.

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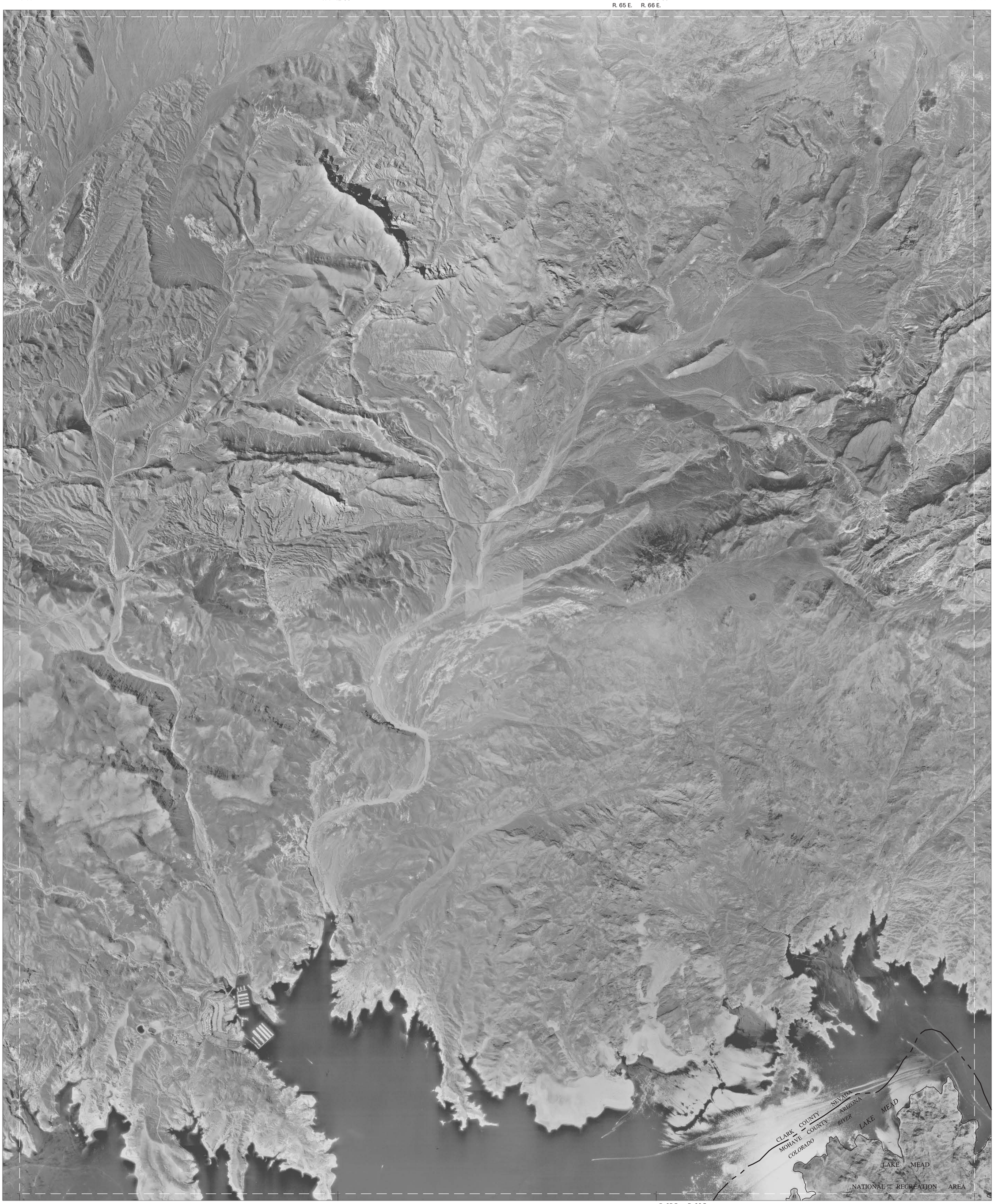
36°12′30″

36°10′00″ T. 20 S. T. 21 S.

36°07′30″



Joins sheet 2, Boulder Canyon

Joins sheet 7, Boulder Beach

Joins sheet 8, Hoover Dam

Joins sheet 9, Petroglyph Wash

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of the Interior, Geological Survey, from 1992 - 1999 aerial photography. Public land survey system (PLSS) were acquired from U.S. Geological Survey.

North American Datum of 1983 (NAD83). GRS-80 Spheriod 1000-meter ticks: Universal Transverse Mercator, zone 11. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

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MILES

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FEET

1 0 1
KILOMETERS

CALLVILLE BAY, ARIZONA

7.5 MINUTE SERIES
SHEET NUMBER 1 OF 80

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MOHAVE COUNTY, ARIZONA, CENTRAL PART
BOULDER CANYON QUADRANGLE
SHEET NUMBER 2 OF 80

114°37′30″ 114°35′00″ 114°32′30″ 114°30′00″

R. 66 E. R. 66 1/2 E. R. 66 1/2 E. R. 67 E.

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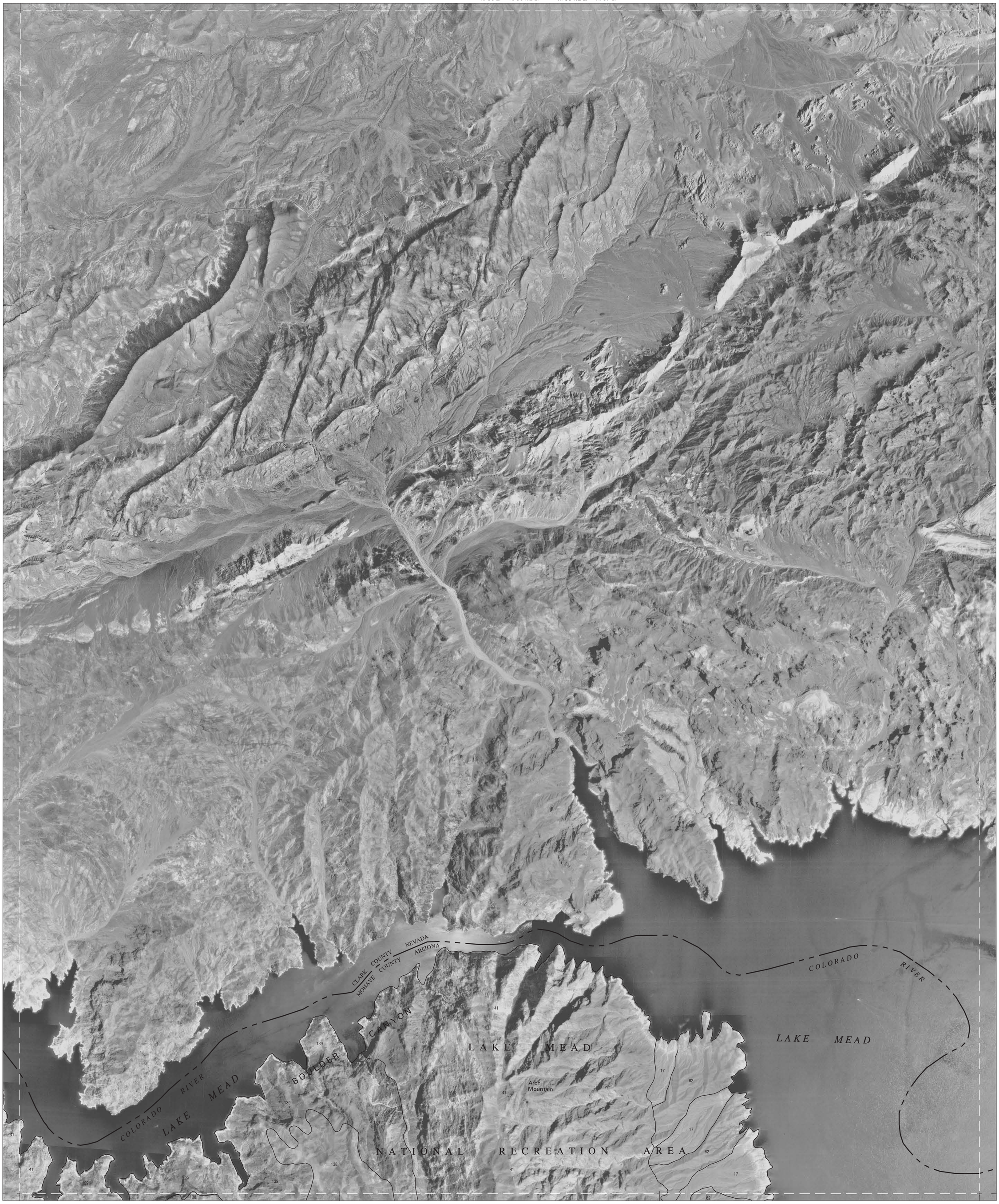

Joins sheet 1, Callville Bay

Joins sheet 3, Middle Point

Joins sheet 8, Hoover Dam

Joins sheet 9, Petroglyph Wash

Joins sheet 10, Boneill Bay

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North American Datum of 1983 (NAD83). GRS-80 Spheriod 1000-meter ticks: Universal Transverse Mercator, zone 11. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

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MILES

1000 0 1000 2000 3000 4000 5000 6000 7000
FEET

1 0 1
KILOMETERS

BOULDER CANYON, ARIZONA
7.5 MINUTE SERIES
SHEET NUMBER 2 OF 80

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MOHAVE COUNTY, ARIZONA, CENTRAL PART
MIDDLE POINT QUADRANGLE
SHEET NUMBER 3 OF 80

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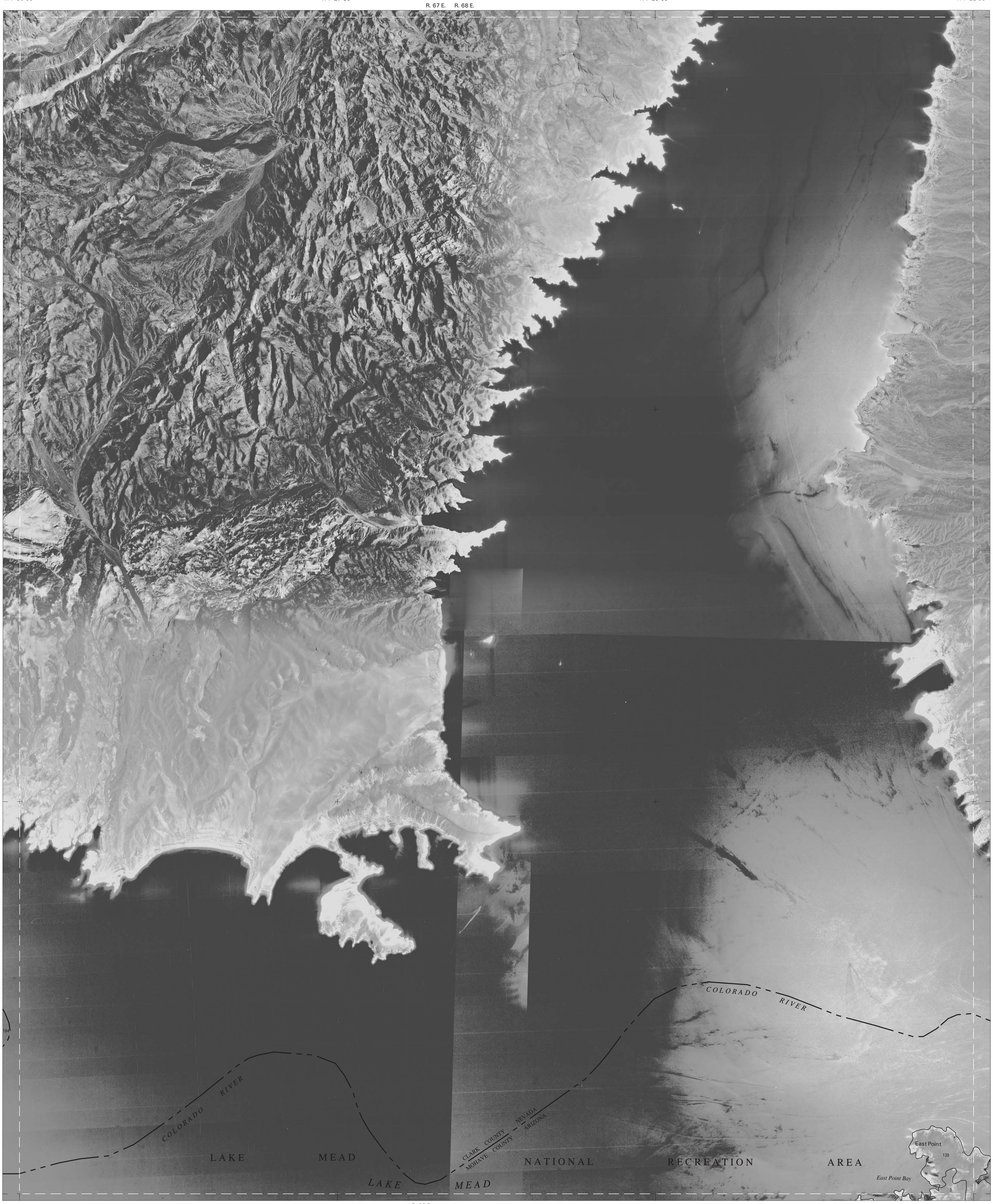
T. 20 S.



T. 20 S.
T. 21 S.

36°07′30″

R. 68 E.

114°30′00″ 114°27′30″ 114°25′00″ 114°22′30″

Joins sheet 2, Boulder Canyon

Joins sheet 4, Garrett Butte

Joins sheet 9, Petroglyph Wash

Joins sheet 10, Bonelli Bay

Joins sheet 11, The Temple

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North American Datum of 1983 (NAD83). GRS-80 Spheriod 1000-meter ticks: Universal Transverse Mercator, zone 11. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

1 0 1
MILES

1000 0 1000 2000 3000 4000 5000 6000 7000
FEET

1 0 1
KILOMETERS

MIDDLE POINT, ARIZONA
7.5 MINUTE SERIES
SHEET NUMBER 3 OF 80

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MOHAVE COUNTY, ARIZONA, CENTRAL PART
GARRETT BUTTE QUADRANGLE
SHEET NUMBER 4 OF 80

114°22′30″ 114°20′00″ 114°17′30″ 114°15′00″

R. 68 E. R. 69 E.

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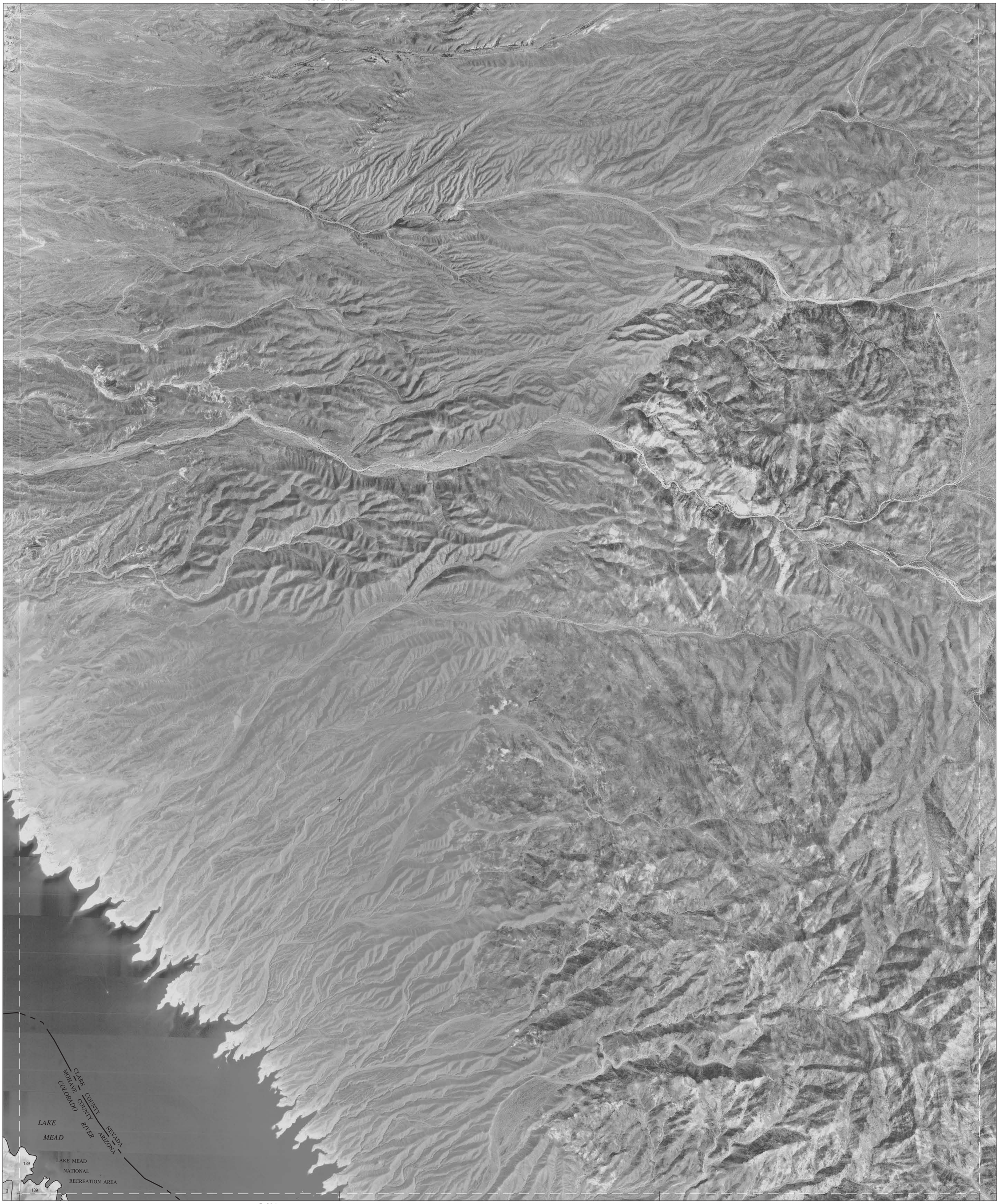

Joins sheet 3, Middle Point

Joins sheet 10, Borrelli Bay

Joins sheet 11, The Temple

Joins sheet 12, Hiller Mountains

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North American Datum of 1983 (NAD83). GRS-80 Spheriod 1000-meter ticks: Universal Transverse Mercator, zone 11. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

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MILES

1000 0 1000 2000 3000 4000 5000 6000 7000
FEET

1 0 1
KILOMETERS

GARRETT BUTTE, ARIZONA

7.5 MINUTE SERIES
SHEET NUMBER 4 OF 80

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MOHAVE COUNTY, ARIZONA, CENTRAL PART
ICEBERG CANYON QUADRANGLE
SHEET NUMBER 5 OF 80

114°07′30″ 114°05′00″ 114°02′30″ 114°00′00″

R. 16 W.

T. 33 N.

36°15′00″
36°12′30″
36°10′00″
36°07′30″

LAKE MEAD

Iceberg Ridge

Wheeler Ridge

CLARK COUNTY NEVADA
MOHAVE COUNTY ARIZONA

COLORADO RIVER

LAKE MEAD
NATIONAL RECREATION AREA

SURVEY
OF
AREA
LIMITS

122 123 63 62 64 17

LAKE MEAD

R. 70 E.

Joins sheet 6, Snap Canyon West

Joins sheet 12, Hiller Mountains

Joins sheet 13, Meadview North

Joins sheet 14, Columbine Falls

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North American Datum of 1983 (NAD83). GRS-80 Spheriod 1000-meter ticks: Universal Transverse Mercator, zone 11. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

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MILES

1000 0 1000 2000 3000 4000 5000 6000 7000
FEET

1 0 1
KILOMETERS

ICEBERG CANYON, ARIZONA
7.5 MINUTE SERIES
SHEET NUMBER 5 OF 80

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

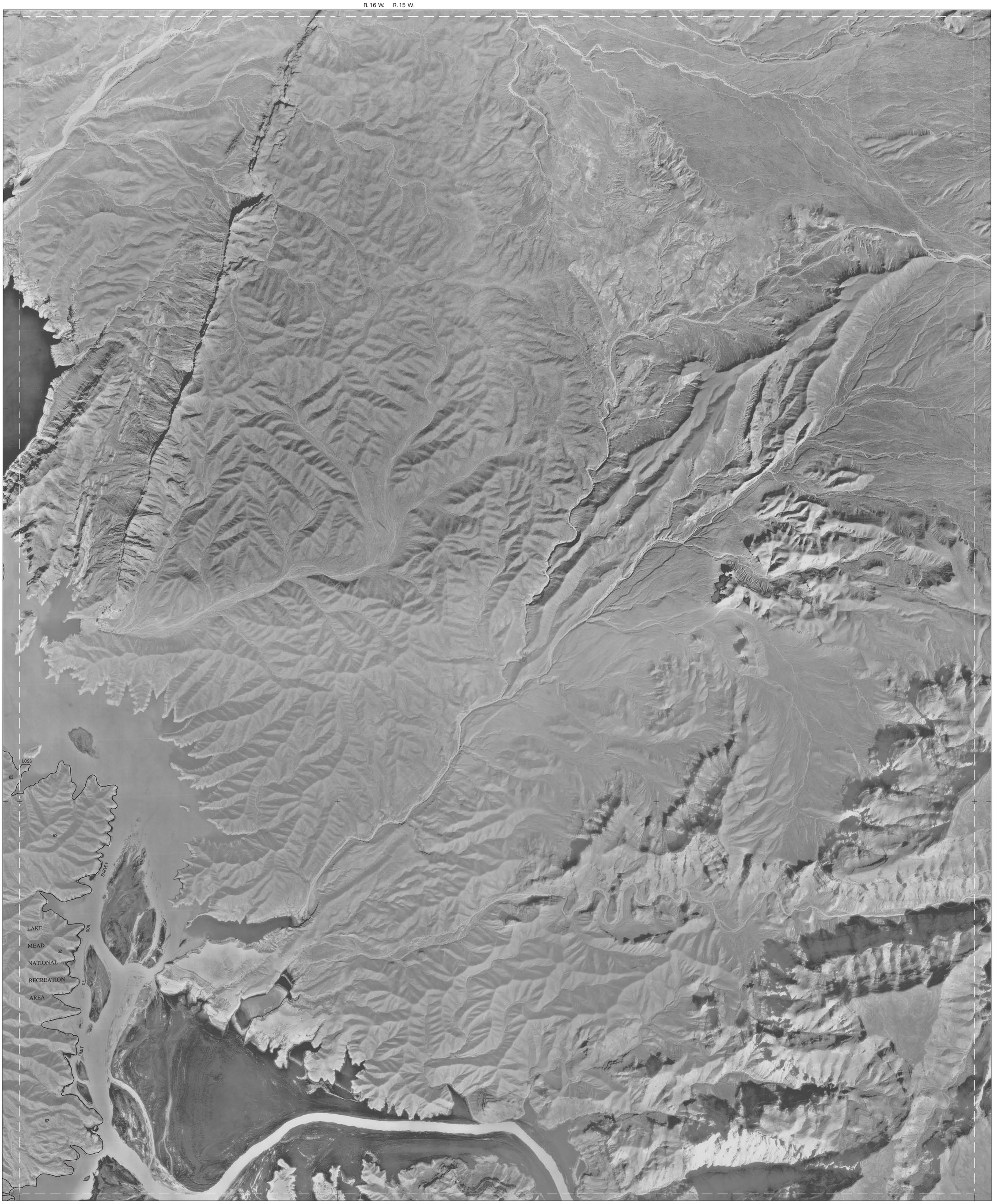
MOHAVE COUNTY, ARIZONA, CENTRAL PART
SNAP CANYON WEST QUADRANGLE
SHEET NUMBER 6 OF 80

114°00′00″ 113°57′30″ 113°55′00″ 113°52′30″

R. 16 W. R. 15 W.

36°15′00″ 36°12′30″ 36°10′00″ 36°07′30″

T. 33 N.



Joins sheet 5, Iceberg Canyon

Joins sheet 13, Meadview North

Joins sheet 14, Columbine Falls

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North American Datum of 1983 (NAD83). GRS-80 Spheriod 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

1 0 1
MILES

1000 0 1000 2000 3000 4000 5000 6000 7000
FEET

1 0 1
KILOMETERS

SNAP CANYON WEST, ARIZONA

7.5 MINUTE SERIES
SHEET NUMBER 6 OF 80

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MOHAVE COUNTY, ARIZONA, CENTRAL PART
BOULDER BEACH QUADRANGLE
SHEET NUMBER 7 OF 80

Joins sheet 1, Callville Bay

114°52′30″ 114°50′00″ 114°47′30″ 114°45′00″

R. 64 E. R. 65 E.

36°07′30″

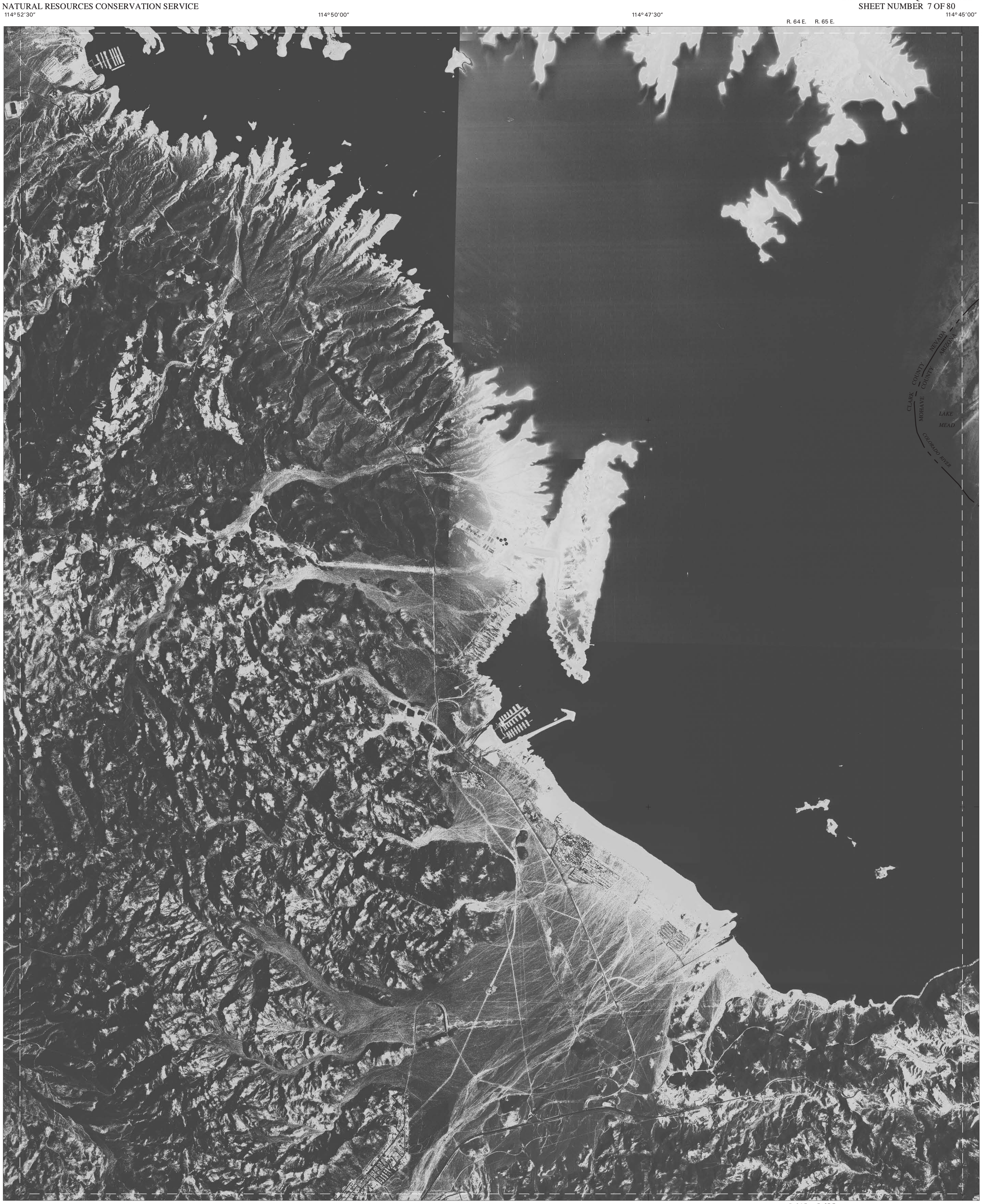
36°05′00″

T. 21 S.
T. 22 S.

T. 31 N.

36°02′30″

36°00′00″



Joins sheet 8, Hoover Dam

Joins sheet 15, Ringbolt Rapids

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North American Datum of 1983 (NAD83). GRS-80 Spheriod 1000-meter ticks: Universal Transverse Mercator, zone 11. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

1 0 1
MILES

1000 0 1000 2000 3000 4000 5000 6000 7000
FEET

1 0 1
KILOMETERS

BOULDER BEACH, ARIZONA
7.5 MINUTE SERIES
SHEET NUMBER 7 OF 80

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MOHAVE COUNTY, ARIZONA, CENTRAL PART
HOOVER DAM QUADRANGLE
SHEET NUMBER 8 OF 80

114° 45′ 00″ | 114° 42′ 30″ | 114° 40′ 00″ | 114° 37′ 30″

Joins sheet 1, Callville Bay

Joins sheet 2, Boulder Canyon

R. 65 E.

36° 07′ 30″

T. 21 S.

36° 05′ 00″

36° 02′ 30″

T. 22 S.

36° 00′ 00″

R. 23 W.

Joins sheet 7, Boulder Beach

Joins sheet 9, Petroglyph Wash

Joins sheet 15, Ringbolt Rapids

Joins sheet 16, Mount Wilson

COLORADO RIVER

CLARK COUNTY NEVADA
MOHAVE COUNTY ARIZONA

LAKE MEAD

LAKE MEAD NATIONAL RECREATION AREA

BLACK MOUNTAINS

Fortification Ridge

FORTIFICATION HILL

Wilson Ridge

Arrowhead Wash

White Rock Canyon

HOOVER DAM

93

Sugarloaf Mountain

12 13 14 23 24 25 26 35 36 1 2 3 10 11 12

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North American Datum of 1983 (NAD83). GRS-80 Spheriod 1000-meter ticks: Universal Transverse Mercator, zone 11. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

1 0 1
MILES

1000 0 1000 2000 3000 4000 5000 6000 7000
FEET

1 0 1
KILOMETERS

HOOVER DAM, ARIZONA

7.5 MINUTE SERIES
SHEET NUMBER 8 OF 80

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MOHAVE COUNTY, ARIZONA, CENTRAL PART
PETROGLYPH WASH QUADRANGLE
SHEET NUMBER 9 OF 80

Joins sheet 1, Callville Bay

Joins sheet 2, Boulder Canyon

Joins sheet 3, Middle Point

114°37′30″ 114°35′00″ 114°32′30″ 114°30′00″

36°07′30″

36°05′00″

36°02′30″

36°00′00″

Joins sheet 8, Hoover Dam

Joins sheet 10, Bonelli Bay

Joins sheet 15, Ringbolt Rapids

Joins sheet 16, Mount Wilson

Joins sheet 17, Senator Mountain NW

LAKE MEAD

BLACK MOUNTAINS

LAKE MEAD NATIONAL RECREATION AREA

BLACK MOUNTAINS

DETRITAL VALLEY

Wilson Ridge

Gilbert Canyon

Petroglyph Wash

Lake Mead

Lake Mead

T. 31 N.
T. 30 N.

R. 22 W. R. 21 W.

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North American Datum of 1983 (NAD83). GRS-80 Spheriod 1000-meter ticks: Universal Transverse Mercator, zone 11. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

1 0 1
MILES

1000 0 1000 2000 3000 4000 5000 6000 7000
FEET

1 0 1
KILOMETERS

PETROGLYPH WASH, ARIZONA

7.5 MINUTE SERIES
SHEET NUMBER 9 OF 80

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MOHAVE COUNTY, ARIZONA, CENTRAL PART
BONELLI BAY QUADRANGLE
SHEET NUMBER 10 OF 80

Joins sheet 2, Boulder Canyon

Joins sheet 4, Garrett Butte

Joins sheet 3, Middle Point

114° 30′ 00″ | 114° 27′ 30″ | 114° 25′ 00″ | 114° 22′ 30″

36° 07′ 30″

36° 05′ 00″

36° 02′ 30″

T. 30 N.

36° 00′ 00″

R. 21 W. R. 20 W.

Joins sheet 9, Petroglyph Wash

Joins sheet 11, The Temple

LAKE MEAD

BONELLI BAY

LAKE MEAD NATIONAL RECREATION AREA

BIG GYPSUM LEDGES

WHITE HILLS

DETRITAL VALLEY

Detrital Wash

Joins sheet 16, Mount Wilson

Joins sheet 17, Senator Mountain NW

Joins sheet 18, Senator Mountain NE

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North American Datum of 1983 (NAD83). GRS-80 Spheriod 1000-meter ticks: Universal Transverse Mercator, zone 11. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

1 0 1 MILES

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

1 0 1 KILOMETERS

BONELLI BAY, ARIZONA
7.5 MINUTE SERIES
SHEET NUMBER 10 OF 80

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MOHAVE COUNTY, ARIZONA, CENTRAL PART
THE TEMPLE QUADRANGLE
SHEET NUMBER 11 OF 80

Joins sheet 3, Middle Point

114°22′30″ 114°20′00″ 114°17′30″ 114°15′00″

Joins sheet 4, Garrett Butte

36°07′30″ 36°05′00″ 36°02′30″ 36°00′00″

Joins sheet 10, Bonelli Bay

Joins sheet 12, Hiller Mountains

COLORADO RIVER

CLARK COUNTY NEVADA
MOHAVE COUNTY ARIZONA

LAKE MEAD

LAKE MEAD

LAKE MEAD

LAKE MEAD NATIONAL RECREATION AREA

WHITE HILLS

Temple Bar Marina

T. 30 N.

R. 20 W.

Joins sheet 17, Senator Mountain NW

Joins sheet 18, Senator Mountain NE

Joins sheet 19, Garrett Mountain NW

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North American Datum of 1983 (NAD83). GRS-80 Spheriod 1000-meter ticks: Universal Transverse Mercator, zone 11. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

1 0 1
MILES

1000 0 1000 2000 3000 4000 5000 6000 7000
FEET

1 0 1
KILOMETERS

THE TEMPLE, ARIZONA
7.5 MINUTE SERIES
SHEET NUMBER 11 OF 80

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MOHAVE COUNTY, ARIZONA, CENTRAL PART
HILLER MOUNTAINS QUADRANGLE
SHEET NUMBER 12 OF 80

Joins sheet 4, Garrett Butte

Joins sheet 5, Iceberg Canyon

114°15′00″ 114°12′30″ 114°10′00″ 114°07′30″

R. 69 E. R. 70 E.

36°07′30″ 36°05′00″ 36°02′30″ 36°00′00″

Joins sheet 11, The Temple

Joins sheet 13, Meadview North

LAKE MEAD

GREGG BASIN

COLORADO RIVER

CLARK COUNTY NEVADA
MOHAVE COUNTY ARIZONA

LAKE MEAD NATIONAL RECREATION AREA

Salt Spring Bay

Spring Canyon

Hualapai Wash

Hualapai Bay

T. 31 N.
T. 30 N.

R. 18 W. R. 17 W.

Joins sheet 18, Senator Mountain NE

Joins sheet 19, Garnet Mountain NW

Joins sheet 20, Meadview South

SCALE 1:24000

MILES 1 0 1

FEET 1000 0 1000 2000 3000 4000 5000 6000 7000

KILOMETERS 1 0 1

NORTH

QUADRANGLE LOCATION

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North American Datum of 1983 (NAD83). GRS-80 Spheriod 1000-meter ticks: Universal Transverse Mercator, zone 11. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

HILLER MOUNTAINS, ARIZONA
7.5 MINUTE SERIES
SHEET NUMBER 12 OF 80

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MOHAVE COUNTY, ARIZONA, CENTRAL PART
MEADVIEW NORTH QUADRANGLE
SHEET NUMBER 13 OF 80

Joins sheet 6, Snap Canyon West

114° 07′ 30″ | 114° 05′ 00″ | 114° 02′ 30″ | 114° 00′ 00″

Joins sheet 5, Iceberg Canyon

36° 07′ 30″
36° 05′ 00″
36° 02′ 30″
T. 31 N.
T. 30 N.
36° 00′ 00″

Joins sheet 12, Hiller Mountains

Joins sheet 14, Columbine Falls

R. 17 W. R. 16 W.

Joins sheet 20, Meadview South

Joins sheet 19, Garnet Mountain NW

Joins sheet 21, Grapevine Canyon

CLARK COUNTY NEVADA
MOHAVE COUNTY ARIZONA
COLORADO RIVER
LAKE MEAD
GREGG BASIN
COLORADO RIVER
Sandy Point
Pearce Wash
Pearce Ferry
Pearce Bay
LAKE MEAD
PEARCE FERRY ROAD
Grapevine Wash
LAKE MEAD
LAKE MEAD
NATIONAL
GRAPEVINE MESA
PEARCE FERRY ROAD
RECREATION AREA
Grapevine Canyon
Grapevine Canyon
Hualapai Bay
Meadview

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of the Interior, Geological Survey, from 1992 - 1999 aerial photography. Public land survey system (PLSS) were acquired from U.S. Geological Survey.

North American Datum of 1983 (NAD83). GRS-80 Spheriod 1000-meter ticks: Universal Transverse Mercator, zone 11. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

1 0 1
MILES

1000 0 1000 2000 3000 4000 5000 6000 7000
FEET

1 0 1
KILOMETERS

MEADVIEW NORTH, ARIZONA
7.5 MINUTE SERIES
SHEET NUMBER 13 OF 80

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

Joins sheet 5, Iceberg Canyon

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MOHAVE COUNTY, ARIZONA, CENTRAL PART
COLUMBINE FALLS QUADRANGLE
SHEET NUMBER 14 OF 80

Joins sheet 6, Snap Canyon West

114°00′00″ 113°57′30″ 113°55′00″ 113°52′30″

36°07′30″ 36°05′00″ 36°02′30″ 36°00′00″

Joins sheet 13, Meadview North

T. 31 N.
T. 30 N.

R. 16 W. R. 15 W.

Joins sheet 21, Grapevine Canyon

Joins sheet 20, Meadview South

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North American Datum of 1983 (NAD83). GRS-80 Spheriod 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

1 0 1
MILES

1000 0 1000 2000 3000 4000 5000 6000 7000
FEET

1 0 1
KILOMETERS

COLUMBINE FALLS, ARIZONA
7.5 MINUTE SERIES
SHEET NUMBER 14 OF 80

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

Joins sheet 7, Boulder Beach

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MOHAVE COUNTY, ARIZONA, CENTRAL PART
RINGBOLT RAPIDS QUADRANGLE
SHEET NUMBER 15 OF 80

Joins sheet 9, Petroglyph Wash

Joins sheet 8, Hoover Dam

114°45′00″ — 114°42′30″ — 114°40′00″ — 114°37′30″

R. 65 E. — R. 23 W. — R. 22 W.

36°00′00″ — 35°57′30″ — 35°55′00″ — 35°52′30″

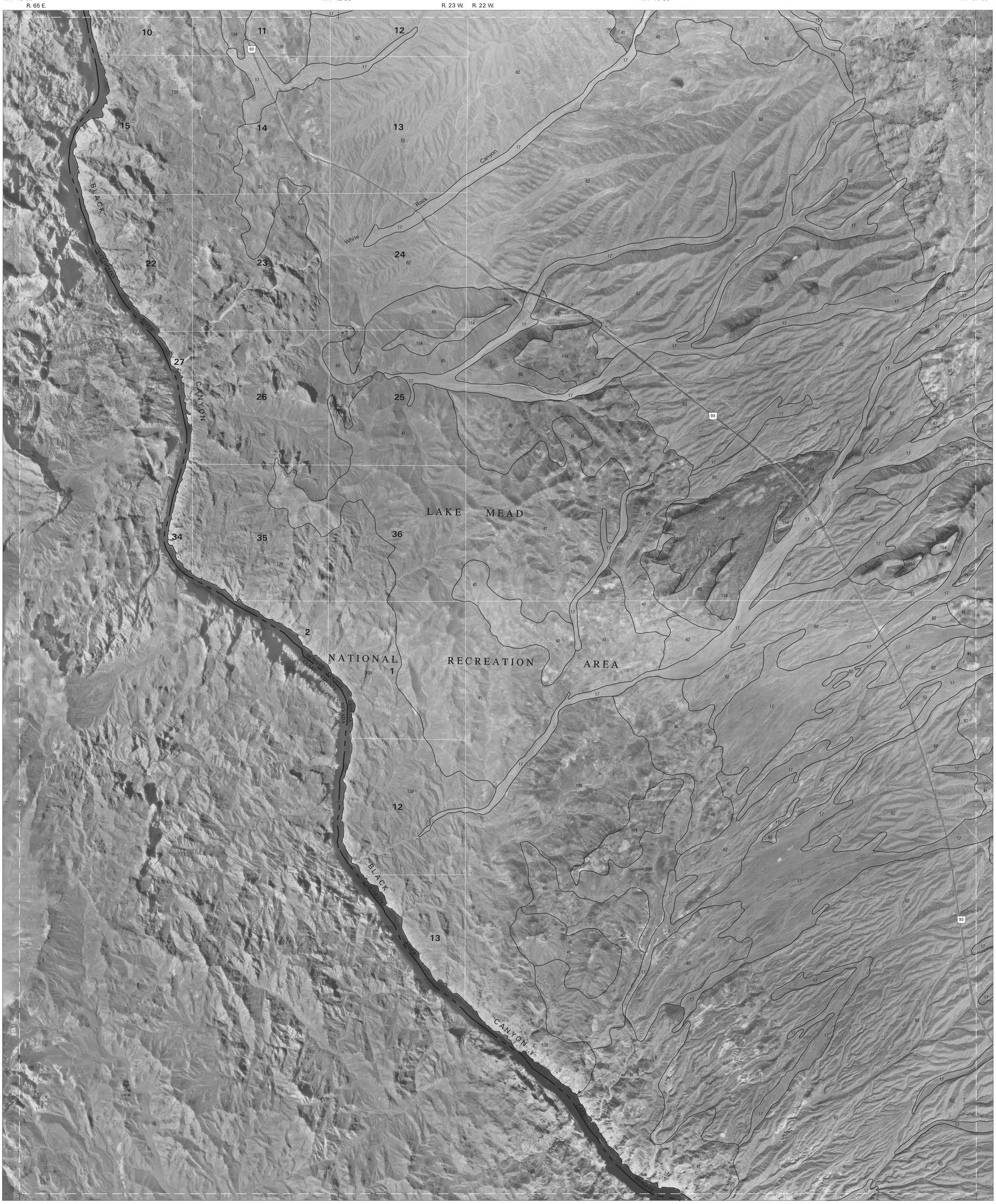
T. 22 S.
T. 23 S.

T. 30 N.
T. 29 N.

Joins sheet 16, Mount Wilson

Joins sheet 22, Willow Beach

Joins sheet 23, Householder Pass



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North American Datum of 1983 (NAD83). GRS-80 Spheriod 1000-meter ticks: Universal Transverse Mercator, zone 11. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

1 0 1
MILES

1000 0 1000 2000 3000 4000 5000 6000 7000
FEET

1 0 1
KILOMETERS

RINGBOLT RAPIDS, ARIZONA
7.5 MINUTE SERIES
SHEET NUMBER 15 OF 80

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MOHAVE COUNTY, ARIZONA, CENTRAL PART
MOUNT WILSON QUADRANGLE
SHEET NUMBER 16 OF 80

Joins sheet 8, Hoover Dam
Joins sheet 9, Petroglyph Wash
Joins sheet 10, Borelli Bay
Joins sheet 15, Ringbolt Rapids
Joins sheet 17, Senator Mountain NW
Joins sheet 22, Willow Beach
Joins sheet 23, Housholder Pass
Joins sheet 24, Senator Mountain SW

114°37′30″ 114°35′00″ 114°32′30″ 114°30′00″

R. 22 W. R. 21 W.

36°00′00″ 35°57′30″ T. 30 N. T. 29 N. 35°55′00″ 35°52′30″

Mount Wilson
Wilson Ridge
LAKE MEAD NATIONAL RECREATION AREA
DETRITAL VALLEY
Detrital Wash
93

1 2 3 4 5 6 7 8 9 10 11 14 15 16 17 18 19 20 21 22 23 26 27 28 29 30

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North American Datum of 1983 (NAD83). GRS-80 Spheriod 1000-meter ticks: Universal Transverse Mercator, zone 11. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

1 0 1
MILES

1000 0 1000 2000 3000 4000 5000 6000 7000
FEET

1 0 1
KILOMETERS

MOUNT WILSON, ARIZONA
7.5 MINUTE SERIES
SHEET NUMBER 16 OF 80

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MOHAVE COUNTY, ARIZONA, CENTRAL PART
SENATOR MOUNTAIN NW QUADRANGLE
SHEET NUMBER 17 OF 80

Joins sheet 9, Petroglyph Wash

114°30′00″ 114°27′30″ 114°25′00″ 114°22′30″

R. 21 W. R. 20 W.

36°00′00″ 35°57′30″ T. 29 N. 35°55′00″ 35°52′30″

Joins sheet 10, Bonelli Bay

Joins sheet 11, The Temple

Joins sheet 16, Mount Wilson

Joins sheet 18, Senator Mountain NE

Joins sheet 23, Houlihan Pass

Joins sheet 24, Senator Mountain SW

Joins sheet 25, Senator Mountain

LAKE MEAD NATIONAL RECREATION AREA

VALLEY

DETRITAL

WHITE HILLS

Detrital Wash

Squaw Peak

T. 30 N.

T. 29 N.

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North American Datum of 1983 (NAD83). GRS-80 Spheriod 1000-meter ticks: Universal Transverse Mercator, zone 11. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

1 0 1
MILES

1000 0 1000 2000 3000 4000 5000 6000 7000
FEET

1 0 1
KILOMETERS

SENATOR MOUNTAIN NW, ARIZONA
7.5 MINUTE SERIES
SHEET NUMBER 17 OF 80

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

Joins sheet 10, Burnett Bay

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MOHAVE COUNTY, ARIZONA, CENTRAL PART
SENATOR MOUNTAIN NE QUADRANGLE
SHEET NUMBER 18 OF 80

Joins sheet 12, Hiller Mountains

114°22′30″ — R. 20 W. R. 19 W. — 114°20′00″ — 114°17′30″ — 114°15′00″

Joins sheet 11, The Temple

36°00′00″ — 35°57′30″ — T. 30 N. — T. 29 N. — 35°55′00″ — 35°52′30″

LAKE MEAD NATIONAL RECREATION AREA

WHITE HILLS

Spring Wash

Salt Wash

Joins sheet 17, Senator Mountain NW

Joins sheet 19, Garnet Mountain NW

Joins sheet 24, Senator Mountain SW

Joins sheet 25, Senator Mountain

Joins sheet 26, Gold Basin

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North American Datum of 1983 (NAD83). GRS-80 Spheriod 1000-meter ticks: Universal Transverse Mercator, zone 11. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

MILES: 1 0 1

FEET: 1000 0 1000 2000 3000 4000 5000 6000 7000

KILOMETERS: 1 0 1

SENATOR MOUNTAIN NE, ARIZONA

7.5 MINUTE SERIES
SHEET NUMBER 18 OF 80

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MOHAVE COUNTY, ARIZONA, CENTRAL PART
GARNET MOUNTAIN NW QUADRANGLE
SHEET NUMBER 19 OF 80

Joins sheet 11, The Temple

114°15′00″ 114°12′30″ 114°10′00″ 114°07′30″

Joins sheet 12, Hiller Mountains

Joins sheet 13, Meadview North

R. 18 W. R. 17 W.

36°00′00″ 35°57′30″ 35°55′00″ 35°52′30″

T. 30 N.
T. 29 N.

Joins sheet 18, Senator Mountain NE

Joins sheet 20, Meadview South

LAKE MEAD NATIONAL RECREATION AREA

WHITE HILLS

Salt Spring Wash
Spring Canyon
Hualapai Wash
Wash
Elephant Wash
White Wash

Joins sheet 25, Senator Mountain

Joins sheet 26, Gold Basin

Joins sheet 27, Garnet Mountain

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North American Datum of 1983 (NAD83). GRS-80 Spheriod 1000-meter ticks: Universal Transverse Mercator, zone 11. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

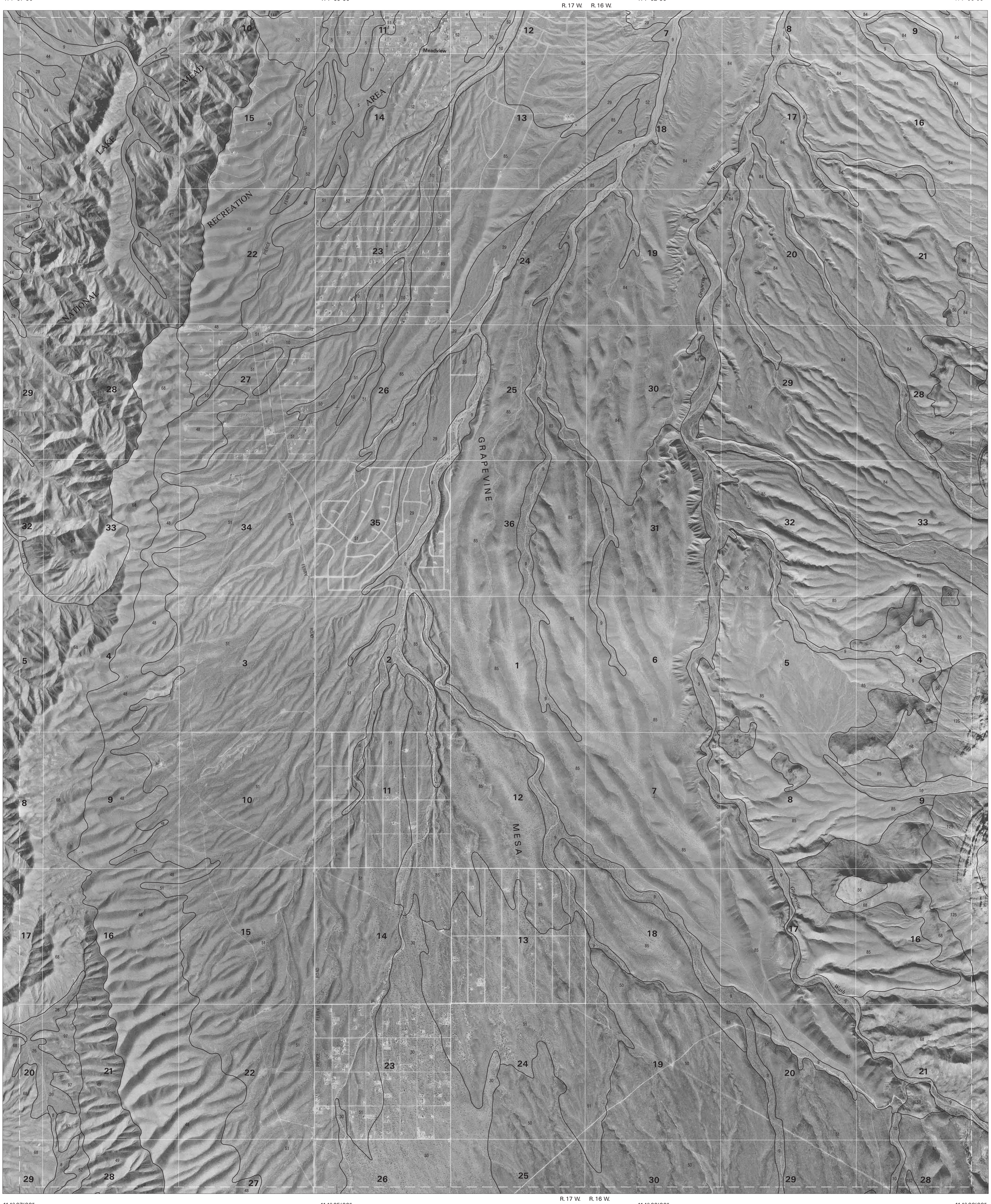
1 0 1
MILES

1000 0 1000 2000 3000 4000 5000 6000 7000
FEET

1 0 1
KILOMETERS

GARNET MOUNTAIN NW, ARIZONA
7.5 MINUTE SERIES
SHEET NUMBER 19 OF 80

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.



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North American Datum of 1983 (NAD83). GRS-80 Spheriod 1000-meter ticks: Universal Transverse Mercator, zone 11. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

MILES

FEET

KILOMETERS

MEADVIEW SOUTH, ARIZONA

7.5 MINUTE SERIES
SHEET NUMBER 20 OF 80

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MOHAVE COUNTY, ARIZONA, CENTRAL PART
GRAPEVINE CANYON QUADRANGLE
SHEET NUMBER 21 OF 80

Joins sheet 13, Meadview North

Joins sheet 14, Columbine Falls

114°00′00″ 113°57′30″ 113°55′00″ 113°52′30″

R. 16 W. R. 15 W.

36°00′00″ 35°57′30″ 35°55′00″ 35°52′30″

T. 30 N.
T. 29 N.

Joins sheet 20, Meadview South

Joins sheet 27, Garnet Mountain

Joins sheet 28, Quartermaster Canyon SW

GRAND CANYON NATIONAL PARK

CLIFFS

WASH

GRAND Canyon

INDIAN RESERVATION

Grapevine Wash

Grapevine Canyon

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North American Datum of 1983 (NAD83). GRS-80 Spheriod 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

MILES

FEET

KILOMETERS

GRAPEVINE CANYON, ARIZONA
7.5 MINUTE SERIES
SHEET NUMBER 21 OF 80

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MOHAVE COUNTY, ARIZONA, CENTRAL PART
WILLOW BEACH QUADRANGLE
SHEET NUMBER 22 OF 80

Joins sheet 16, Mount Wilson

114° 45′ 00″ | 114° 42′ 30″ | 114° 40′ 00″ | 114° 37′ 30″

Joins sheet 15, Ringbolt Rapids

35° 52′ 30″ | 35° 50′ 00″ | 35° 47′ 30″ | T. 25 S. | 35° 45′ 00″

T. 29 N.
T. 28 N.

Joins sheet 23, Housholder Pass

Joins sheet 29, Fire Mountain

Joins sheet 30, Nolan Mine

R. 65 E.

Willow Beach

COLORADO RIVER

BLACK CANYON

LAKE MEAD NATIONAL RECREATION AREA

CLARK COUNTY, NEVADA
MOHAVE COUNTY, ARIZONA

LAKE MOHAVE

COLORADO RIVER

BLACK CANYON

MESA

FLATTOP

MALPAIS

Juniper Wash

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North American Datum of 1983 (NAD83). GRS-80 Spheriod 1000-meter ticks: Universal Transverse Mercator, zone 11. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

1 0 1
MILES

1000 0 1000 2000 3000 4000 5000 6000 7000
FEET

1 0 1
KILOMETERS

WILLOW BEACH, ARIZONA
7.5 MINUTE SERIES
SHEET NUMBER 22 OF 80

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MOHAVE COUNTY, ARIZONA, CENTRAL PART
HOUSHOLDER PASS QUADRANGLE
SHEET NUMBER 23 OF 80

Joins sheet 15, Ringbolt Rapids

Joins sheet 16, Mount Wilson

Joins sheet 17, Senator Mountain NW

114°37′30″ | 114°35′00″ | 114°32′30″ | 114°30′00″

R. 22 W. | R. 21 W.

35°52′30″ | 35°50′00″ | 35°47′30″ | 35°45′00″

T. 29 N.
T. 28 N.
T. 28 N.
T. 27 N.

Housholder Pass

DETRITAL VALLEY

LAKE MEAD NATIONAL RECREATION AREA

Detrital Wash

Joins sheet 22, Willow Beach

Joins sheet 24, Senator Mountain SW

Joins sheet 29, Fire Mountain

Joins sheet 30, Mohave Mine

Joins sheet 31, White Hills West

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North American Datum of 1983 (NAD83). GRS-80 Spheriod 1000-meter ticks: Universal Transverse Mercator, zone 11. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

1 0 1
MILES

1000 0 1000 2000 3000 4000 5000 6000 7000
FEET

1 0 1
KILOMETERS

HOUSHOLDER PASS, ARIZONA
7.5 MINUTE SERIES
SHEET NUMBER 23 OF 80

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MOHAVE COUNTY, ARIZONA, CENTRAL PART
SENATOR MOUNTAIN SW QUADRANGLE
SHEET NUMBER 24 OF 80

Joins sheet 16, Mount Wilson
Joins sheet 17, Senator Mountain NW
Joins sheet 18, Senator Mountain NE
Joins sheet 23, Housholder Pass
Joins sheet 25, Senator Mountain
Joins sheet 30, Mohave Mine
Joins sheet 31, White Hills West
Joins sheet 32, White Hills East

114°30′00″ 114°27′30″ 114°25′00″ 114°22′30″

R. 21 W. R. 20 W.

35°52′30″ 35°50′00″ 35°47′30″ 35°45′00″

T. 29 N.
T. 28 N.
T. 28 N.
T. 27 N.

DETRITAL VALLEY
HILLS
WHITE
Detrital Wash

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North American Datum of 1983 (NAD83). GRS-80 Spheriod 1000-meter ticks: Universal Transverse Mercator, zone 11. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

MILES

FEET

KILOMETERS

SENATOR MOUNTAIN SW, ARIZONA
7.5 MINUTE SERIES
SHEET NUMBER 24 OF 80

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MOHAVE COUNTY, ARIZONA, CENTRAL PART
SENATOR MOUNTAIN QUADRANGLE
SHEET NUMBER 25 OF 80

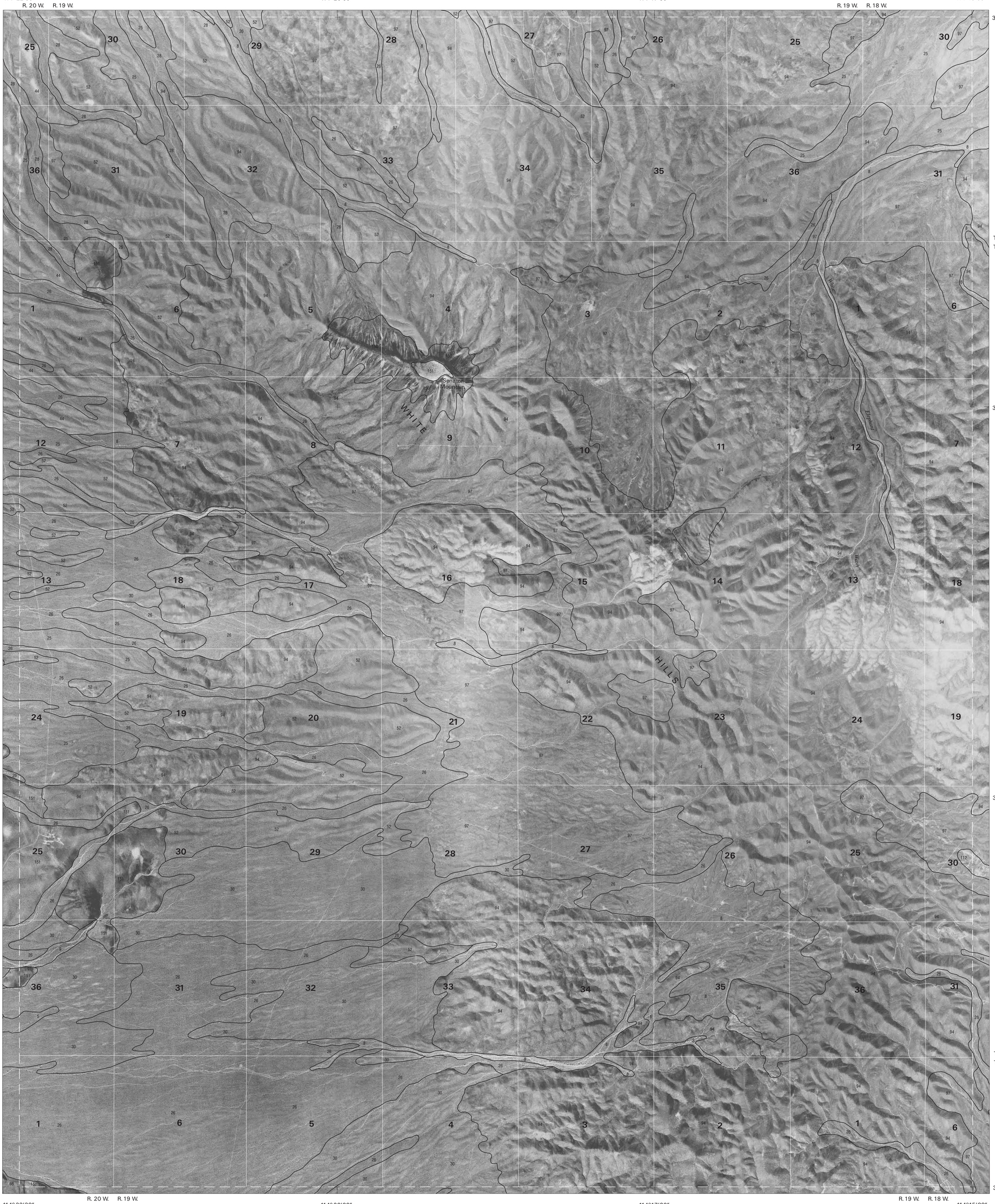
Joins sheet 17, Senator Mountain NW
Joins sheet 18, Senator Mountain NE
Joins sheet 19, Garnet Mountain NW
Joins sheet 24, Senator Mountain SW
Joins sheet 26, Gold Basin
Joins sheet 31, White Hills West
Joins sheet 32, White Hills East
Joins sheet 32, Mount Tipton NW

114°22′30″ 114°20′00″ 114°17′30″ 114°15′00″

R. 20 W. R. 19 W. R. 19 W. R. 18 W.

35°52′30″ 35°50′00″ 35°47′30″ 35°45′00″

T. 29 N. T. 28 N. T. 28 N. T. 27 N.



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North American Datum of 1983 (NAD83). GRS-80 Spheriod 1000-meter ticks: Universal Transverse Mercator, zone 11. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

1 0 1
MILES

1000 0 1000 2000 3000 4000 5000 6000 7000
FEET

1 0 1
KILOMETERS

SENATOR MOUNTAIN, ARIZONA
7.5 MINUTE SERIES
SHEET NUMBER 25 OF 80

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MOHAVE COUNTY, ARIZONA, CENTRAL PART
GOLD BASIN QUADRANGLE
SHEET NUMBER 26 OF 80

Joins sheet 18, Senator Mountain NE
Joins sheet 19, Garnet Mountain NW
Joins sheet 20, Meadview South
Joins sheet 25, Senator Mountain
Joins sheet 27, Garnet Mountain
Joins sheet 32, White Hills East
Joins sheet 33, Mount Tipton NW
Joins sheet 34, Red Lake

114°15′00″ 114°12′30″ 114°10′00″ 114°07′30″

35°52′30″ 35°50′00″ 35°47′30″ 35°45′00″

R. 18 W. R. 17 W.

T. 29 N.
T. 28 N.
T. 28 N.
T. 27 N.

Elephant Wash
White Wash
Hualapai Wash
HILLS
WHITE
GOLD BASIN
HUALAPAI VALLEY
PIERCE FERRY ROAD
STOCKTON HILL

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North American Datum of 1983 (NAD83). GRS-80 Spheriod 1000-meter ticks: Universal Transverse Mercator, zone 11. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

MILES

FEET

KILOMETERS

GOLD BASIN, ARIZONA
7.5 MINUTE SERIES
SHEET NUMBER 26 OF 80

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

Joins sheet 19, Garnet Mountain NW

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MOHAVE COUNTY, ARIZONA, CENTRAL PART
GARNET MOUNTAIN QUADRANGLE
SHEET NUMBER 27 OF 80

Joins sheet 21, Grapevine Canyon

Joins sheet 20, Meadview South

Joins sheet 26, Gold Basin

Joins sheet 28, Quartermaster Canyon SW

Joins sheet 33, Mount Tipton NW

Joins sheet 34, Red Lake

Joins sheet 35, Music Mountains NW

114° 07′ 30″ | 114° 05′ 00″ | R. 17 W. R. 16 W. | 114° 02′ 30″ | 114° 00′ 00″

35° 52′ 30″ | 35° 50′ 00″ | 35° 47′ 30″ | 35° 45′ 00″

T. 29 N. | T. 28 N. | T. 27 N.

GRAPEVINE MESA

Iron Mountain

PIERCE FERRY ROAD

HUALAPAI VALLEY

Garvee Mountain

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North American Datum of 1983 (NAD83). GRS-80 Spheriod 1000-meter ticks: Universal Transverse Mercator, zone 11. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

MILES

FEET

KILOMETERS

GARNET MOUNTAIN, ARIZONA
7.5 MINUTE SERIES
SHEET NUMBER 27 OF 80

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MOHAVE COUNTY, ARIZONA, CENTRAL PART
QUARTERMASTER CANYON SW QUADRANGLE
SHEET NUMBER 28 OF 80

Joins sheet 20, Meadview South

114°00′00″ 113°57′30″ 113°55′00″ 113°52′30″

Joins sheet 21, Grapevine Canyon

R. 16 W. R. 15 W.

35°52′30″ T. 29 N. T. 28 N. 35°50′00″ 35°47′30″ T. 28 N. T. 27 N. 35°45′00″

Joins sheet 27, Garnet Mountain

WASH
CLIFFS
GRAND
Creek
Reference
Point
INDIAN RESERVATION

Joins sheet 34, Red Lake

Joins sheet 35, Music Mountains NW

Joins sheet 36, Music Mountains NE

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North American Datum of 1983 (NAD83). GRS-80 Spheriod 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

1 0 1
MILES

1000 0 1000 2000 3000 4000 5000 6000 7000
FEET

1 0 1
KILOMETERS

QUARTERMASTER CANYON SW, ARIZONA
7.5 MINUTE SERIES
SHEET NUMBER 28 OF 80

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MOHAVE COUNTY, ARIZONA, CENTRAL PART
FIRE MOUNTAIN QUADRANGLE
SHEET NUMBER 29 OF 80

114° 45′ 00″ | 114° 42′ 30″ | 114° 40′ 00″ | 114° 37′ 30″

R. 65 E. | R. 66 E.

35° 45′ 00″ | 35° 42′ 30″ | 35° 40′ 00″ | 35° 37′ 30″

T. 25 S. | T. 26 S. | T. 27 S.

Joins sheet 22, Willow Beach

Joins sheet 23, Houshodder Pass

Joins sheet 30, Mohave Mine

Joins sheet 37, Mount Davis

Joins sheet 38, Mount Perkins

COLORADO RIVER

LAKE MOHAVE

MOHAVE COUNTY, ARIZONA
CLARK COUNTY, NEVADA

LAKE MEAD NATIONAL RECREATION AREA

Fire Mountain

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North American Datum of 1983 (NAD83). GRS-80 Spheriod 1000-meter ticks: Universal Transverse Mercator, zone 11. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

1 0 1
MILES

1000 0 1000 2000 3000 4000 5000 6000 7000
FEET

1 0 1
KILOMETERS

FIRE MOUNTAIN, ARIZONA
7.5 MINUTE SERIES
SHEET NUMBER 29 OF 80

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

114° 37′ 30″ — 114° 35′ 00″ — 114° 32′ 30″ — 114° 30′ 00″

Joins sheet 23, Housholder Pass

R. 21 W.

35° 45′ 00″ — 35° 42′ 30″ — 35° 40′ 00″ — 35° 37′ 30″

T. 27 N.
T. 26 N.

Joins sheet 29, Fire Mountain

Joins sheet 31, White Hills West

Joins sheet 37, Mount Davis

Joins sheet 38, Mount Perkins

Joins sheet 39, Middle Water Spring

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North American Datum of 1983 (NAD83). GRS-80 Spheriod 1000-meter ticks: Universal Transverse Mercator, zone 11. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

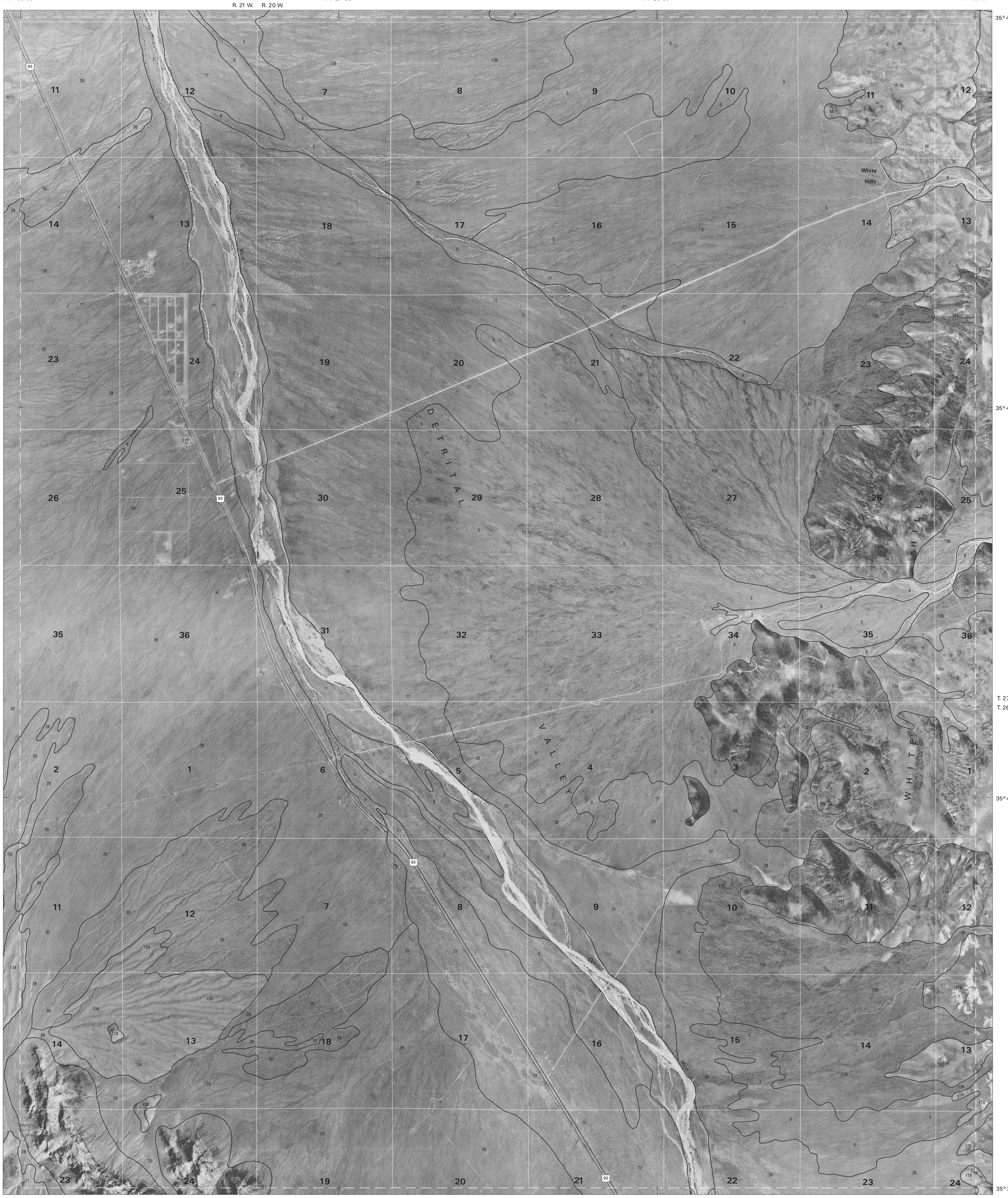
1 0 1
MILES

1000 0 1000 2000 3000 4000 5000 6000 7000
FEET

1 0 1
KILOMETERS

MOHAVE MINE, ARIZONA
7.5 MINUTE SERIES
SHEET NUMBER 30 OF 80

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.



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North American Datum of 1983 (NAD83). GRS-80 Spheriod 1000-meter ticks: Universal Transverse Mercator, zone 11. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

1 0 1
MILES

1000 0 1000 2000 3000 4000 5000 6000 7000
FEET

1 0 1
KILOMETERS

WHITE HILLS WEST, ARIZONA

7.5 MINUTE SERIES
SHEET NUMBER 31 OF 80

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MOHAVE COUNTY, ARIZONA, CENTRAL PART
WHITE HILLS EAST QUADRANGLE
SHEET NUMBER 32 OF 80

114°22′30″ 114°20′00″ 114°17′30″ 114°15′00″

R. 20 W. R. 19 W. R. 19 W. R. 18 W.

35°45′00″ 35°42′30″ 35°40′00″ 35°37′30″

T. 27 N.
T. 26 N.

WHITE HILLS

Table Mountain Plateau

Joins sheet 31, White Hills West

Joins sheet 33, Mount Tipton NW

Joins sheet 39, Middle Water Spring

Joins sheet 40, Dolan Springs

Joins sheet 41, Mount Tipton

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North American Datum of 1983 (NAD83). GRS-80 Spheriod 1000-meter ticks: Universal Transverse Mercator, zone 11. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

1 0 1
MILES

1000 0 1000 2000 3000 4000 5000 6000 7000
FEET

1 0 1
KILOMETERS

WHITE HILLS EAST, ARIZONA
7.5 MINUTE SERIES
SHEET NUMBER 32 OF 80

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MOHAVE COUNTY, ARIZONA, CENTRAL PART
MOUNT TIPTON NW QUADRANGLE
SHEET NUMBER 33 OF 80

Joins sheet 25, Senator Mountain
Joins sheet 26, Gold Basin
Joins sheet 27, Garnet Mountain
Joins sheet 32, White Hills East
Joins sheet 34, Red Lake
Joins sheet 40, Dolan Springs
Joins sheet 41, Mount Tipton
Joins sheet 42, Mount Tipton SE

114°15′00″ 114°12′30″ 114°10′00″ 114° 07′30″

R. 18 W. R. 17 W.

35° 45′00″ 35° 42′30″ 35° 40′00″ 35° 37′30″

T. 27 N.
T. 26 N.

WHITE HILLS
Table Mountain Plateau
HUALAPAI VALLEY
STOCKTON HILL ROAD
FERRY ROAD
PIERCE FERRY ROAD
Table Mountain
HUALAPAI MOUNTAINS
CERBAT

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North American Datum of 1983 (NAD83). GRS-80 Spheriod 1000-meter ticks: Universal Transverse Mercator, zone 11. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

1 0 1
MILES

1000 0 1000 2000 3000 4000 5000 6000 7000
FEET

1 0 1
KILOMETERS

MOUNT TIPTON NW, ARIZONA
7.5 MINUTE SERIES
SHEET NUMBER 33 OF 80

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

114° 07′ 30″ | 114° 05′ 00″ | 114° 02′ 30″ | 114° 00′ 00″

R. 17 W. | R. 16 W.

35° 45′ 00″ | 35° 42′ 30″ | 35° 40′ 00″ | 35° 37′ 30″

T. 27 N.
T. 26 N.

Joins sheet 33, Mount Tipton NW

Joins sheet 35, Music Mountains NW

Joins sheet 41, Mount Tipton

Joins sheet 42, Mount Tipton SE

Joins sheet 43, Music Mountains SW

HUALAPAI MOUNTAINS

RED LAKE VALLEY

CERBAT MOUNTAINS

STOCKTON HILL ROAD

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North American Datum of 1983 (NAD83). GRS-80 Spheriod 1000-meter ticks: Universal Transverse Mercator, zone 11. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

1 0 1
MILES

1000 0 1000 2000 3000 4000 5000 6000 7000
FEET

1 0 1
KILOMETERS

RED LAKE, ARIZONA
7.5 MINUTE SERIES
SHEET NUMBER 34 OF 80

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

Joins sheet 27, Garnet Mountain

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MOHAVE COUNTY, ARIZONA, CENTRAL PART
MUSIC MOUNTAINS NW QUADRANGLE
SHEET NUMBER 35 OF 80

Joins sheet 28, Quartermaster Canyon SW

114° 00′ 00″ | 113° 57′ 30″ | 113° 55′ 00″ | 113° 52′ 30″

R. 16 W. R. 15 W.

35° 45′ 00″ | 35° 42′ 30″ | 35° 40′ 00″ | 35° 37′ 30″

T. 27 N.
T. 26 N.

GRAND WASH CLIFFS

HUALAPAI VALLEY

MUSIC MOUNTAINS

HUALAPAI INDIAN RESERVATION

Joins sheet 34, Red Lake

Joins sheet 36, Music Mountains NE

Joins sheet 43, Music Mountains SW

Joins sheet 42, Mount Tipton SE

Joins sheet 44, Music Mountains SE

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North American Datum of 1983 (NAD83). GRS-80 Spheriod 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

1 0 1
MILES

1000 0 1000 2000 3000 4000 5000 6000 7000
FEET

1 0 1
KILOMETERS

MUSIC MOUNTAINS NW, ARIZONA
7.5 MINUTE SERIES
SHEET NUMBER 35 OF 80

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

Joins sheet 28, Quartermaster Canyon SW

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MOHAVE COUNTY, ARIZONA, CENTRAL PART
MUSIC MOUNTAINS NE QUADRANGLE
SHEET NUMBER 36 OF 80

113°52′30″ 113°50′00″ 113°47′30″ 113°45′00″
R. 15 W. R. 14 W.
35°45′00″ 35°42′30″ 35°40′00″ 35°37′30″
T. 27 N. T. 26 N.

Joins sheet 35, Music Mountains NW

GRAND WASH CLIFFS
MUSIC MOUNTAINS
HUALAPAI INDIAN RESERVATION

Joins sheet 43, Music Mountains SW
Joins sheet 44, Music Mountains SE
Joins sheet 45, Milkweed Canyon SW

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of the Interior, Geological Survey, from 1992 - 1999 aerial photography. Public land survey system (PLSS) were acquired from U.S. Geological Survey.

North American Datum of 1983 (NAD83). GRS-80 Spheriod 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

1 0 1
MILES

1000 0 1000 2000 3000 4000 5000 6000 7000
FEET

1 0 1
KILOMETERS

MUSIC MOUNTAINS NE, ARIZONA

7.5 MINUTE SERIES
SHEET NUMBER 36 OF 80

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MOHAVE COUNTY, ARIZONA, CENTRAL PART
MOUNT DAVIS QUADRANGLE
SHEET NUMBER 37 OF 80

Joins sheet 30, Mohave Mine

Joins sheet 29, Fire Mountain

114° 45′ 00″ | 114° 42′ 30″ | 114° 40′ 00″ | 114° 37′ 30″

R. 65 E. | R. 66 E.

35° 37′ 30″ | 35° 35′ 00″ | 35° 32′ 30″ | 35° 30′ 00″

T. 26 N.
T. 25 N.
T. 27 S.
T. 28 S.
T. 25 N.
T. 24 N.

NEVADA
ARIZONA
CLARK COUNTY
MOHAVE COUNTY
RIVER
COLORADO
LAKE
MEAD
NATIONAL
RECREATION
AREA
LAKE
MOHAVE
Mount Davis
COTTONWOOD
VALLEY

3 4 5 6 10 15 20 21 22 27 28 29 30 31 32 33 34

Joins sheet 38, Mount Perkins

Joins sheet 47, Spirit Mountain NW

Joins sheet 48, Spirit Mountain NE

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North American Datum of 1983 (NAD83). GRS-80 Spheriod 1000-meter ticks: Universal Transverse Mercator, zone 11. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

1 0 1
MILES

1000 0 1000 2000 3000 4000 5000 6000 7000
FEET

1 0 1
KILOMETERS

MOUNT DAVIS, ARIZONA
7.5 MINUTE SERIES
SHEET NUMBER 37 OF 80

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

114° 37′ 30″ | 114° 35′ 00″ | 114° 32′ 30″ | 114° 30′ 00″

35° 37′ 30″

R. 21 W.

LAKE MEAD NATIONAL RECREATION AREA

Mount Perkins

T. 26 N.
T. 25 N.

35° 35′ 00″

35° 32′ 30″

Joins sheet 37, Mount Davis

Joins sheet 39, Middle Water Spring

T. 25 N.
T. 24 N.

35° 30′ 00″

R. 22 W. R. 21 W.

Joins sheet 48, Spirit Mountain NE

Joins sheet 47, Spirit Mountain NW

Joins sheet 49, Grasshopper Junction NW

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North American Datum of 1983 (NAD83). GRS-80 Spheriod 1000-meter ticks: Universal Transverse Mercator, zone 11. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

MILES

FEET

KILOMETERS

MOUNT PERKINS, ARIZONA

7.5 MINUTE SERIES
SHEET NUMBER 38 OF 80

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MOHAVE COUNTY, ARIZONA, CENTRAL PART
MIDDLE WATER SPRING QUADRANGLE
SHEET NUMBER 39 OF 80

Joins sheet 30, Mohave Mine
Joins sheet 31, White Hills West
Joins sheet 32, White Hills East
Joins sheet 38, Mount Perkins
Joins sheet 40, Dolan Springs
Joins sheet 48, Spirit Mountain NE
Joins sheet 49, Grasshopper Junction NW
Joins sheet 50, Grasshopper Junction

114° 30′ 00″ — 114° 27′ 30″ — 114° 25′ 00″ — 114° 22′ 30″
35° 37′ 30″ — 35° 35′ 00″ — 35° 32′ 30″ — 35° 30′ 00″
R. 21 W. — R. 20 W.
T. 26 N. — T. 25 N. — T. 24 N.

Perrital Wash
DETRITAL VALLEY
Detrital Wash
93

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of the Interior, Geological Survey, from 1992 - 1999 aerial photography. Public land survey system (PLSS) were acquired from U.S. Geological Survey.

North American Datum of 1983 (NAD83). GRS-80 Spheriod 1000-meter ticks: Universal Transverse Mercator, zone 11. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

MILES: 1 0 1
FEET: 1000 0 1000 2000 3000 4000 5000 6000 7000
KILOMETERS: 1 0 1

MIDDLE WATER SPRING, ARIZONA
7.5 MINUTE SERIES
SHEET NUMBER 39 OF 80

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

Joins sheet 31, White Hills West

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MOHAVE COUNTY, ARIZONA, CENTRAL PART
DOLAN SPRINGS QUADRANGLE
SHEET NUMBER 40 OF 80

Joins sheet 33, Mount Tipton NW

Joins sheet 32, White Hills East

114°22′30″ 114°20′00″ 114°17′30″ 114°15′00″

R. 20 W. R. 19 W. R. 19 W. R. 18 W.

35°37′30″ 35°35′00″ 35°32′30″ 35°30′00″

T. 26 N. T. 25 N. T. 24 N.

WHITE HILLS

DETRITAL VALLEY

Dolan Springs

PEARCE FERRY ROAD

Detrital Wash

MOUNTAINS

QUADRANGLE LOCATION

NORTH

SCALE 1:24000

MILES

FEET

KILOMETERS

Joins sheet 39, Middle Water Spring

Joins sheet 41, Mount Tipton

Joins sheet 49, Grasshopper Junction NW

Joins sheet 50, Grasshopper Junction

Joins sheet 51, Chloride

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of the Interior, Geological Survey, from 1992 - 1999 aerial photography. Public land survey system (PLSS) were acquired from U.S. Geological Survey.

North American Datum of 1983 (NAD83). GRS-80 Spheriod 1000-meter ticks: Universal Transverse Mercator, zone 11. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

DOLAN SPRINGS, ARIZONA
7.5 MINUTE SERIES
SHEET NUMBER 40 OF 80

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

MOUNTAINS

CERBAT

Mount Tipton

Tipton Canyon

Joins sheet 40, Dolan Springs

Joins sheet 42, Mount Tipton SE

Joins sheet 50, Grasshopper Junction

Joins sheet 51, Chloride

Joins sheet 52, Elements Canyon

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North American Datum of 1983 (NAD83). GRS-80 Spheriod 1000-meter ticks: Universal Transverse Mercator, zone 11. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

1 0 1
MILES

1000 0 1000 2000 3000 4000 5000 6000 7000
FEET

1 0 1
KILOMETERS

MOUNT TIPTON, ARIZONA
7.5 MINUTE SERIES
SHEET NUMBER 41 OF 80

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MOHAVE COUNTY, ARIZONA, CENTRAL PART
MOUNT TIPTON SE QUADRANGLE
SHEET NUMBER 42 OF 80

Joins sheet 33, Mount Tipton NW
Joins sheet 34, Red Lake
Joins sheet 35, Music Mountains NW
Joins sheet 41, Mount Tipton
Joins sheet 43, Music Mountains SW
Joins sheet 51, Chloride
Joins sheet 52, Elements Canyon
Joins sheet 53, Long Mountain

114° 07′ 30″ | 114° 05′ 00″ | 114° 02′ 30″ | 114° 00′ 00″
R. 17 W. | R. 16 W.
35° 37′ 30″ | 35° 35′ 00″ | 35° 32′ 30″ | 35° 30′ 00″
T. 26 N. | T. 25 N. | T. 24 N.

Red Lake
Truxton Wash
HUALAPAI VALLEY
STOCKTON HILL ROAD
CERBAT MOUNTAINS
Tipton Canyon

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North American Datum of 1983 (NAD83). GRS-80 Spheriod 1000-meter ticks: Universal Transverse Mercator, zone 11. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

MILES: 1 0 1
FEET: 1000 0 1000 2000 3000 4000 5000 6000 7000
KILOMETERS: 1 0 1

MOUNT TIPTON SE, ARIZONA
7.5 MINUTE SERIES
SHEET NUMBER 42 OF 80

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MOHAVE COUNTY, ARIZONA, CENTRAL PART
MUSIC MOUNTAINS SW QUADRANGLE
SHEET NUMBER 43 OF 80

Joins sheet 34, Red Lake
Joins sheet 35, Music Mountains NW
Joins sheet 36, Music Mountains NE
Joins sheet 42, Mount Tipton SE
Joins sheet 44, Music Mountains SE
Joins sheet 52, Elements Canyon
Joins sheet 53, Long Mountain
Joins sheet 54, Antares

114°00′00″ 113°57′30″ 113°55′00″ 113°52′30″

35°37′30″ 35°35′00″ 35°32′30″

R. 16 W. R. 15 W.

T. 26 N.
T. 25 N.
T. 25 N.
T. 24 N.

HUALAPAI VALLEY

Truxton Wash

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North American Datum of 1983 (NAD83). GRS-80 Spheriod 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

MILES

FEET

KILOMETERS

MUSIC MOUNTAINS SW, ARIZONA
7.5 MINUTE SERIES
SHEET NUMBER 43 OF 80

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MOHAVE COUNTY, ARIZONA, CENTRAL PART
MUSIC MOUNTAINS SE QUADRANGLE
SHEET NUMBER 44 OF 80

Joins sheet 35, Music Mountains NW

113°52′30″ | 113°50′00″ | 113°47′30″ | 113°45′00″

R. 15 W. R. 14 W.

Joins sheet 36, Music Mountains NE

35°37′30″

T. 26 N.
T. 25 N.

35°35′00″

35°32′30″

T. 25 N.
T. 24 N.

35°30′00″

Joins sheet 43, Music Mountains SW

Joins sheet 45, Milkweed Canyon SW

GRAND WASH CLIFFS

MUSIC MOUNTAINS

RESERVATION

Black Mesa

HUALAPAI VALLEY

Truxton Wash

Joins sheet 53, Long Mountain

Joins sheet 54, Antares

Joins sheet 55, Valentine

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North American Datum of 1983 (NAD83). GRS-80 Spheriod 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

1 0 1
MILES

1000 0 1000 2000 3000 4000 5000 6000 7000
FEET

1 0 1
KILOMETERS

MUSIC MOUNTAINS SE, ARIZONA
7.5 MINUTE SERIES
SHEET NUMBER 44 OF 80

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

Joins sheet 36, Music Mountains NE

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MOHAVE COUNTY, ARIZONA, CENTRAL PART
MILKWEED CANYON SW QUADRANGLE
SHEET NUMBER 45 OF 80

113°45′00″ 113°42′30″ 113°40′00″ 113°37′30″

R. 14 W. R. 13 W.

35°37′30″ 35°35′00″ 35°32′30″ 35°30′00″

T. 26 N.
T. 25 N.
T. 24 N.

Black Mesa

MUSIC MOUNTAINS

GRAND WASH CLIFFS

HUALAPAI INDIAN RESERVATION

Joins sheet 44, Music Mountains SE

Joins sheet 54, Antares

Joins sheet 55, Valentine

Joins sheet 56, Truxton

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North American Datum of 1983 (NAD83). GRS-80 Spheriod 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

MILES 1 0 1

FEET 1000 0 1000 2000 3000 4000 5000 6000 7000

KILOMETERS 1 0 1

MILKWEED CANYON SW, ARIZONA
7.5 MINUTE SERIES
SHEET NUMBER 45 OF 80

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

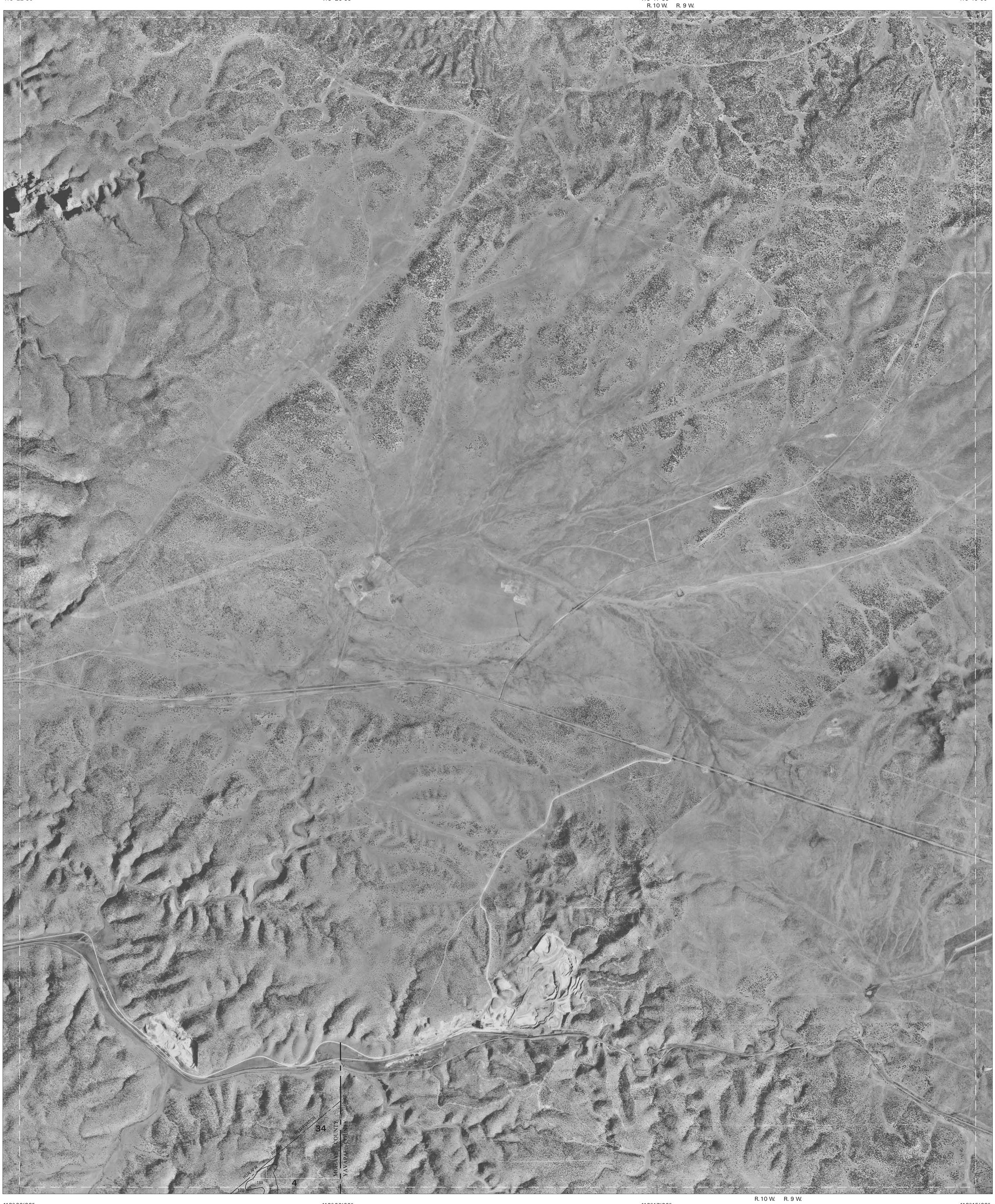
MOHAVE COUNTY, ARIZONA, CENTRAL PART
NELSON QUADRANGLE
SHEET NUMBER 46 OF 80

113°22′30″ 113°20′00″ 113°17′30″ 113°15′00″

R. 10 W. R. 9 W.

35°37′30″
35°35′00″
35°32′30″
35°30′00″

T. 26 N.
T. 25 N.
T. 24 N.



Joins sheet 57, Cherokee Point

Joins sheet 58, Blye Canyon NE

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North American Datum of 1983 (NAD83). GRS-80 Spheriod 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

1 0 1
MILES

1000 0 1000 2000 3000 4000 5000 6000 7000
FEET

1 0 1
KILOMETERS

NELSON, ARIZONA
7.5 MINUTE SERIES
SHEET NUMBER 46 OF 80

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MOHAVE COUNTY, ARIZONA, CENTRAL PART
SPIRIT MOUNTAIN NW QUADRANGLE
SHEET NUMBER 47 OF 80

Joins sheet 38, Mount Perkins

Joins sheet 37, Mount Davis

114° 45′ 00″ — 114° 42′ 30″ — 114° 40′ 00″ — 114° 37′ 30″

R. 65 E. R. 22 W.

35° 30′ 00″

35° 27′ 30″
T. 28 S.
T. 29 S.

35° 25′ 00″

35° 22′ 30″

R. 65 E. R. 66 E.

T. 24 N.
35° 25′ 00″
T. 23 N.

LAKE MEAD NATIONAL RECREATION AREA

COLORADO RIVER

LAKE MOHAVE

MOHAVE COUNTY
CLARK COUNTY
ARIZONA
NEVADA

Joins sheet 48, Spirit Mountain NE

Joins sheet 59, Spirit Mountain SE

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North American Datum of 1983 (NAD83). GRS-80 Spheriod 1000-meter ticks: Universal Transverse Mercator, zone 11. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

1 0 1
MILES

1000 0 1000 2000 3000 4000 5000 6000 7000
FEET

1 0 1
KILOMETERS

SPIRIT MOUNTAIN NW, ARIZONA
7.5 MINUTE SERIES
SHEET NUMBER 47 OF 80

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MOHAVE COUNTY, ARIZONA, CENTRAL PART
SPIRIT MOUNTAIN NE QUADRANGLE
SHEET NUMBER 48 OF 80

Joins sheet 37, Mount Davis
Joins sheet 38, Mount Perkins
Joins sheet 39, Middle Water Spring
Joins sheet 47, Spirit Mountain NW
Joins sheet 49, Grasshopper Junction NW
Joins sheet 59, Spirit Mountain SE
Joins sheet 60, Burns Spring

114°37′30″ 114°35′00″ 114°32′30″ 114°30′00″

35°30′00″ 35°27′30″ 35°25′00″ 35°22′30″

R. 66 E. R. 22 W. R. 21 W.

T. 24 N. T. 23 N. T. 29 S.

LAKE MEAD NATIONAL RECREATION AREA

COTTONWOOD MOUNTAINS

BLACK

VALLEY

LAKE MOHAVE

COLORADO RIVER

MOHAVE COUNTY
CLARK COUNTY

ARIZONA
NEVADA

COLORADO RIVER

Cabin Lost Wash

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North American Datum of 1983 (NAD83). GRS-80 Spheriod 1000-meter ticks: Universal Transverse Mercator, zone 11. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

1 0 1
MILES

1000 0 1000 2000 3000 4000 5000 6000 7000
FEET

1 0 1
KILOMETERS

SPIRIT MOUNTAIN NE, ARIZONA
7.5 MINUTE SERIES
SHEET NUMBER 48 OF 80

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MOHAVE COUNTY, ARIZONA, CENTRAL PART
GRASSHOPPER JUNCTION NW QUADRANGLE
SHEET NUMBER 49 OF 80

Joins sheet 39, Mount Perkins
Joins sheet 40, Dolan Springs
Joins sheet 39, Middle Water Spring

114°30′00″ 114°27′30″ 114°25′00″ 114°22′30″

35°30′00″ 35°27′30″ 35°25′00″ 35°22′30″

R. 21 W. R. 20 W.

T. 24 N.
T. 23 N.

DETRITAL VALLEY
BLACK MOUNTAINS
Detrital Wash
Lost Cabin Wash
Lost Cabin Wash

Joins sheet 48, Spirit Mountain NE
Joins sheet 50, Grasshopper Junction
Joins sheet 59, Spirit Mountain SE
Joins sheet 60, Burns Spring
Joins sheet 61, Grasshopper Junction SE

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North American Datum of 1983 (NAD83). GRS-80 Spheriod 1000-meter ticks: Universal Transverse Mercator, zone 11. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

MILES

FEET

KILOMETERS

GRASSHOPPER JUNCTION NW, ARIZONA
7.5 MINUTE SERIES
SHEET NUMBER 49 OF 80

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MOHAVE COUNTY, ARIZONA, CENTRAL PART
GRASSHOPPER JUNCTION QUADRANGLE
SHEET NUMBER 50 OF 80

Joins sheet 39, Middle Water Spring
Joins sheet 40, Dolan Springs
Joins sheet 41, Mount Tipton
Joins sheet 49, Grasshopper Junction NW
Joins sheet 51, Chloride
Joins sheet 60, Burns Spring
Joins sheet 61, Grasshopper Junction SE
Joins sheet 62, Cerbat

114°22′30″ 114°20′00″ 114°17′30″ 114°15′00″

R. 20 W. R. 19 W. R. 19 W. R. 18 W.

35°30′00″ 35°27′30″ 35°25′00″ 35°22′30″

T. 24 N.
T. 23 N.

DETRITAL VALLEY
CERBAT MOUNTAINS

Detrital Wash
Sacramento Wash
Grasshopper Junction
Sugarloaf Mountain

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North American Datum of 1983 (NAD83). GRS-80 Spheriod 1000-meter ticks: Universal Transverse Mercator, zone 11. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

1 0 1
MILES

1000 0 1000 2000 3000 4000 5000 6000 7000
FEET

1 0 1
KILOMETERS

GRASSHOPPER JUNCTION, ARIZONA

7.5 MINUTE SERIES
SHEET NUMBER 50 OF 80

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MOHAVE COUNTY, ARIZONA, CENTRAL PART
CHLORIDE QUADRANGLE
SHEET NUMBER 51 OF 80

Joins sheet 40, Dolan Springs

Joins sheet 41, Mount Tipton

Joins sheet 42, Mount Tipton SE

114°15′00″ 114°12′30″ 114°10′00″ 114°07′30″

35°30′00″

35°27′30″

35°25′00″

T. 24 N.
T. 23 N.

R. 18 W. R. 17 W.

CERBAT MOUNTAINS

Packsaddle Mountain

SACRAMENTO VALLEY

Chloride

Wash

Sacramento

Vock Canyon

Cherum Peak

Joins sheet 50, Grasshopper Junction

Joins sheet 52, Elements Canyon

Joins sheet 61, Grasshopper Junction SE

Joins sheet 62, Cerbat

Joins sheet 63, Stockton Hill

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North American Datum of 1983 (NAD83). GRS-80 Spheriod 1000-meter ticks: Universal Transverse Mercator, zone 11. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

MILES

FEET

KILOMETERS

CHLORIDE, ARIZONA
7.5 MINUTE SERIES
SHEET NUMBER 51 OF 80

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MOHAVE COUNTY, ARIZONA, CENTRAL PART
ELEMENTS CANYON QUADRANGLE
SHEET NUMBER 52 OF 80

Joins sheet 41, Mount Tipton
Joins sheet 42, Mount Tipton SE
Joins sheet 43, Music Mountains SW
Joins sheet 51, Chloride
Joins sheet 53, Long Mountain
Joins sheet 62, Cerbat
Joins sheet 63, Stockton Hill
Joins sheet 64, Kingman Airport

114° 07′ 30″ | 114° 05′ 00″ | 114° 02′ 30″ | 114° 00′ 00″
R. 17 W. | R. 16 W.
35° 30′ 00″ | 35° 27′ 30″ | 35° 25′ 00″ | 35° 22′ 30″
T. 24 N. | T. 23 N.

HUALAPAI VALLEY
CERBAT MOUNTAINS
Cedar Basin
Canyon
Elements
Vock Canyon
Vock Wash
STOCKTON HILL ROAD

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North American Datum of 1983 (NAD83). GRS-80 Spheriod 1000-meter ticks: Universal Transverse Mercator, zone 11. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

MILES: 1 0 1
FEET: 1000 0 1000 2000 3000 4000 5000 6000 7000
KILOMETERS: 1 0 1

ELEMENTS CANYON, ARIZONA
7.5 MINUTE SERIES
SHEET NUMBER 52 OF 80

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MOHAVE COUNTY, ARIZONA, CENTRAL PART
LONG MOUNTAIN QUADRANGLE
SHEET NUMBER 53 OF 80

Joins sheet 42, Mount Tipton SE
Joins sheet 43, Music Mountains SW
Joins sheet 44, Music Mountains SE
Joins sheet 52, Elements Canyon
Joins sheet 54, Antares
Joins sheet 63, Stockton Hill
Joins sheet 64, Kingman Airport
Joins sheet 65, Peacock Peak

114° 00′ 00″ | 113° 57′ 30″ | 113° 55′ 00″ | 113° 52′ 30″
R. 16 W. | R. 15 W.
35° 30′ 00″ | 35° 27′ 30″ | 35° 25′ 00″ | 35° 22′ 30″
T. 24 N.
T. 23 N.

HUALAPAI MOUNTAIN
LONG VALLEY

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of the Interior, Geological Survey, from 1992 - 1999 aerial photography. Public land survey system (PLSS) were acquired from U.S. Geological Survey.

North American Datum of 1983 (NAD83). GRS-80 Spheriod 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

1 0 1
MILES
1000 0 1000 2000 3000 4000 5000 6000 7000
FEET
1 0 1
KILOMETERS

LONG MOUNTAIN, ARIZONA
7.5 MINUTE SERIES
SHEET NUMBER 53 OF 80

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MOHAVE COUNTY, ARIZONA, CENTRAL PART
ANTARES QUADRANGLE
SHEET NUMBER 54 OF 80

Joins sheet 43, Music Mountains SW

Joins sheet 44, Music Mountains SE

Joins sheet 45, Milkweed Canyon SW

113°52′30″ 113°50′00″ 113°47′30″ 113°45′00″

R. 15 W. R. 14 W.

35°30′00″

35°27′30″

35°25′00″

T. 24 N.
T. 23 N.

35°22′30″

Joins sheet 53, Long Mountain

Joins sheet 55, Valentine

Joins sheet 64, Kingman Airport

Joins sheet 65, Peacock Peak

Joins sheet 66, Hackberry

HUALAPAI VALLEY

Antares

Truxton Wash

ATCHISON TOPEKA AND SANTA FE

PEACOCK MOUNTAINS

66

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of the Interior, Geological Survey, from 1992 - 1999 aerial photography. Public land survey system (PLSS) were acquired from U.S. Geological Survey.

North American Datum of 1983 (NAD83). GRS-80 Spheriod 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

1 0 1
MILES

1000 0 1000 2000 3000 4000 5000 6000 7000
FEET

1 0 1
KILOMETERS

ANTARES, ARIZONA
7.5 MINUTE SERIES
SHEET NUMBER 54 OF 80

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MOHAVE COUNTY, ARIZONA, CENTRAL PART
VALENTINE QUADRANGLE
SHEET NUMBER 55 OF 80

Joins sheet 44, Music Mountains SE

Joins sheet 45, Milkweed Canyon SW

113° 45′ 00″ | 113° 42′ 30″ | 113° 40′ 00″ | 113° 37′ 30″

R. 14 W. R. 13 W.

35° 30′ 00″ | 35° 27′ 30″ | 35° 25′ 00″ | 35° 22′ 30″

T. 24 N.
T. 23 N.

GRAND WASH CLIFFS
HUALAPAI VALLEY
TRUXTON CANYON CLIFFS
COTTONWOOD CANYON
HUALAPAI INDIAN RESERVATION
Truxton Wash
Wright Canyon
Valentine
Hackberry
Truxton
ATCHISON TOPEKA AND SANTA FE

Joins sheet 54, Antares

Joins sheet 56, Truxton

Joins sheet 65, Peacock Peak

Joins sheet 66, Hackberry

Joins sheet 67, Valentine SE

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North American Datum of 1983 (NAD83). GRS-80 Spheriod 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

MILES

FEET

KILOMETERS

VALENTINE, ARIZONA
7.5 MINUTE SERIES
SHEET NUMBER 55 OF 80

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

Joins sheet 45, Milkweed Canyon SW

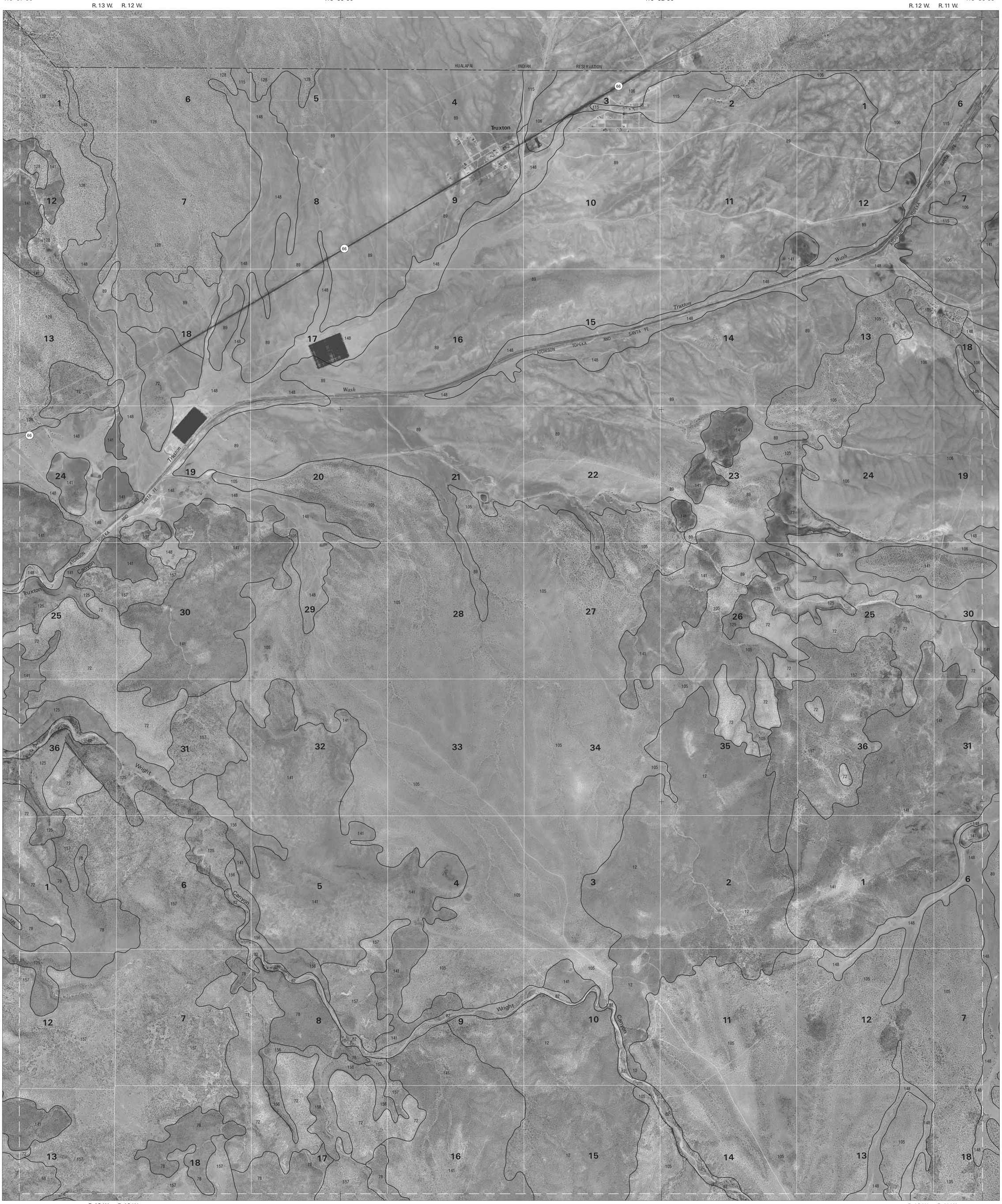
UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MOHAVE COUNTY, ARIZONA, CENTRAL PART
TRUXTON QUADRANGLE
SHEET NUMBER 56 OF 80

113°37′30″ 113°35′00″ 113°32′30″ 113°30′00″

R. 13 W. R. 12 W. R. 12 W. R. 11 W.

35°30′00″ 35°27′30″ 35°25′00″ 35°22′30″



Joins sheet 55, Valentine

Joins sheet 57, Cherokee Point

T. 24 N.
T. 23 N.

Joins sheet 67, Valentine SE

Joins sheet 66, Hackberry

Joins sheet 68, Tuckayou Spring

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North American Datum of 1983 (NAD83). GRS-80 Spheriod 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

1 0 1
MILES

1000 0 1000 2000 3000 4000 5000 6000 7000
FEET

1 0 1
KILOMETERS

TRUXTON, ARIZONA
7.5 MINUTE SERIES
SHEET NUMBER 56 OF 80

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

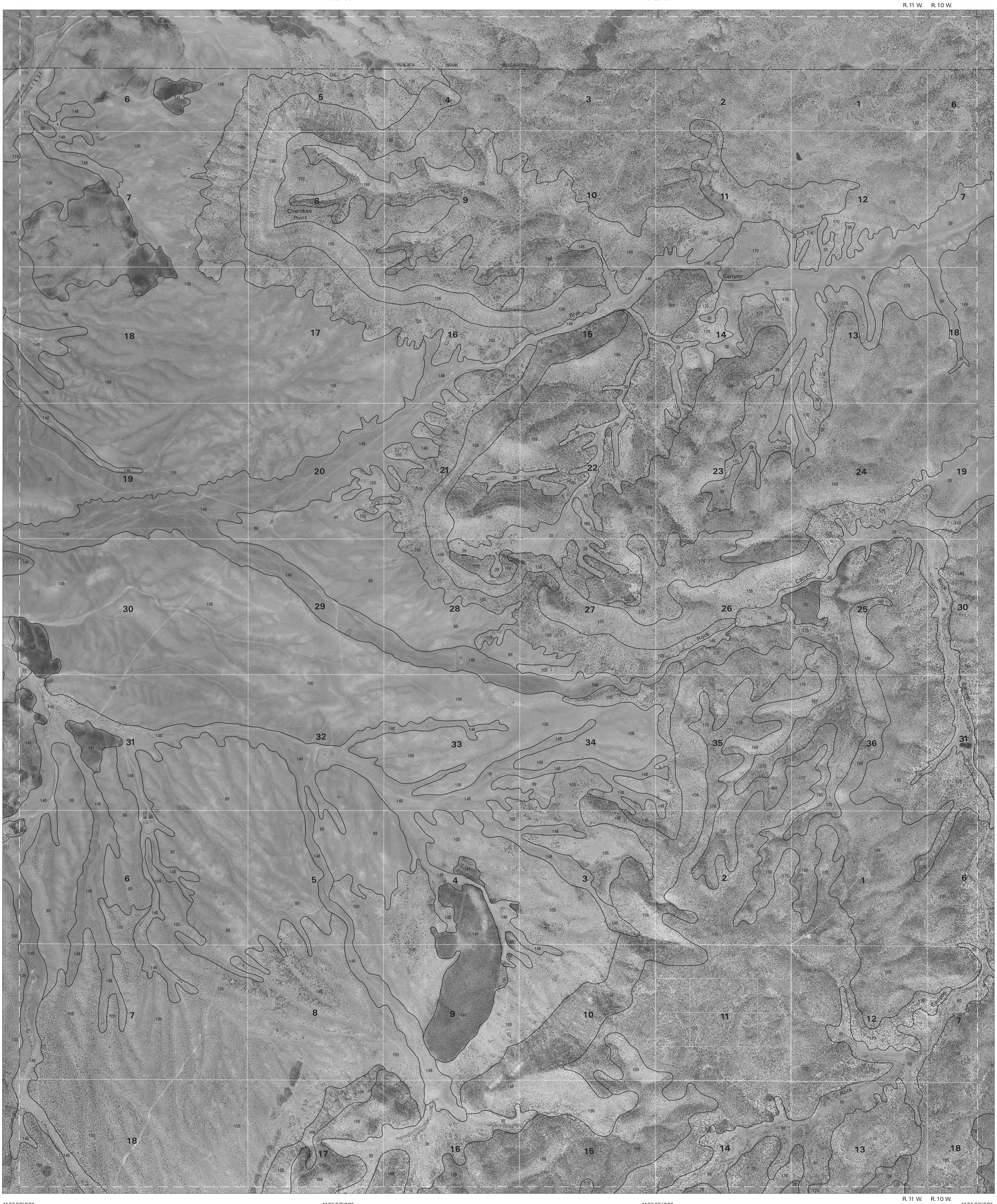
MOHAVE COUNTY, ARIZONA, CENTRAL PART
CHEROKEE POINT QUADRANGLE
SHEET NUMBER 57 OF 80

Joins sheet 46, Nelson

113°30′00″ 113°27′30″ 113°25′00″ 113°22′30″

R. 11 W. R. 10 W.

35°30′00″ 35°27′30″ 35°25′00″ T. 24 N. T. 23 N. 35°22′30″



Joins sheet 56, Truxton

Joins sheet 58, Blye Canyon NE

Joins sheet 68, Tuckayou Spring

Joins sheet 67, Valentine SE

Joins sheet 69, Blye Canyon SE

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North American Datum of 1983 (NAD83). GRS-80 Spheriod 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

1 0 1
MILES

1000 0 1000 2000 3000 4000 5000 6000 7000
FEET

1 0 1
KILOMETERS

CHEROKEE POINT, ARIZONA
7.5 MINUTE SERIES
SHEET NUMBER 57 OF 80

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MOHAVE COUNTY, ARIZONA, CENTRAL PART
BLYE CANYON NE QUADRANGLE
SHEET NUMBER 58 OF 80

113°22′30″ 113°20′00″ 113°17′30″ 113°15′00″

35°30′00″ 35°27′30″ 35°25′00″ 35°22′30″

R. 10 W. R. 9 W.

T. 24 N.
T. 23 N.

Joins sheet 46, Nelson

Joins sheet 57, Cherokee Point

Joins sheet 68, Tuckayou Spring

Joins sheet 69, Blye Canyon SE

HUALAPAI INDIAN RESERVATION

MOHAVE COUNTY
YAVAPAI COUNTY

Faught Canyon
Blye Canyon
Canyon
Rock

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of the Interior, Geological Survey, from 1992 - 1999 aerial photography. Public land survey system (PLSS) were acquired from U.S. Geological Survey.

North American Datum of 1983 (NAD83). GRS-80 Spheriod 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

1 0 1
MILES

1000 0 1000 2000 3000 4000 5000 6000 7000
FEET

1 0 1
KILOMETERS

BLYE CANYON NE, ARIZONA
7.5 MINUTE SERIES
SHEET NUMBER 58 OF 80

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

Joins sheet 47, Spirit Mountain NW

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MOHAVE COUNTY, ARIZONA, CENTRAL PART
SPIRIT MOUNTAIN SE QUADRANGLE
SHEET NUMBER 59 OF 80

Joins sheet 49, Grasshopper Junction NW

114°37′30″ 114°35′00″ 114°32′30″ 114°30′00″

R. 66 E. R. 22 W. R. 22 W. R. 21 W.

Joins sheet 48, Spirit Mountain NE

35°22′30″ 35°20′00″ 35°17′30″ 35°15′00″

T. 29 S.
T. 30 S.
T. 23 N.
T. 22 N.
T. 30 S.
T. 31 S.

COLORADO RIVER
CLARK COUNTY, NEVADA
MOHAVE COUNTY, ARIZONA
LAKE MOHAVE
LAKE MEAD NATIONAL RECREATION AREA
Granite Wash
Tyro Wash

Joins sheet 60, Burns Spring

Joins sheet 70, Davis Dam

Joins sheet 71, Union Pass

SCALE 1:24000

1 0 1
MILES

1000 0 1000 2000 3000 4000 5000 6000 7000
FEET

1 0 1
KILOMETERS

NORTH

QUADRANGLE LOCATION

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of the Interior, Geological Survey, from 1992 - 1999 aerial photography. Public land survey system (PLSS) were acquired from U.S. Geological Survey.

North American Datum of 1983 (NAD83). GRS-80 Spheriod 1000-meter ticks: Universal Transverse Mercator, zone 11. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

SPIRIT MOUNTAIN SE, ARIZONA
7.5 MINUTE SERIES
SHEET NUMBER 59 OF 80

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MOHAVE COUNTY, ARIZONA, CENTRAL PART
BURNS SPRING QUADRANGLE
SHEET NUMBER 60 OF 80

Joins sheet 48, Spirit Mountain NE
Joins sheet 49, Grasshopper Junction NW
Joins sheet 50, Grasshopper Junction

114°30′00″ 114°27′30″ 114°25′00″ 114°22′30″

R. 21 W. R. 20 W.

35°22′30″ 35°20′00″ 35°17′30″ 35°15′00″

T. 23 N.
T. 22 N.

Granite Wash
Burns Spring Canyon
Granite Canyon
Tyro Wash
BLACK MOUNTAINS

Joins sheet 59, Spirit Mountain SE
Joins sheet 61, Grasshopper Junction SE
Joins sheet 70, Davis Dam
Joins sheet 71, Union Pass
Joins sheet 72, Secret Pass

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North American Datum of 1983 (NAD83). GRS-80 Spheriod 1000-meter ticks: Universal Transverse Mercator, zone 11. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

1 0 1
MILES

1000 0 1000 2000 3000 4000 5000 6000 7000
FEET

1 0 1
KILOMETERS

BURNS SPRING, ARIZONA
7.5 MINUTE SERIES
SHEET NUMBER 60 OF 80

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

Joins sheet 49, Grasshopper Junction NW

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MOHAVE COUNTY, ARIZONA, CENTRAL PART
GRASSHOPPER JUNCTION SE QUADRANGLE
SHEET NUMBER 61 OF 80

Joins sheet 51, Chloride

114°22′30″ 114°20′00″ 114°17′30″ 114°15′00″

R. 20 W. R. 19 W. R. 19 W. R. 18 W.

35°22′30″ 35°20′00″ 35°17′30″ 35°15′00″

T. 23 N.
T. 22 N.

Joins sheet 50, Grasshopper Junction

Joins sheet 60, Burns Spring

Joins sheet 62, Cerbat

Joins sheet 71, Union Pass

Joins sheet 72, Secret Pass

Joins sheet 73, Kingman NW

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North American Datum of 1983 (NAD83). GRS-80 Spheriod 1000-meter ticks: Universal Transverse Mercator, zone 11. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

MILES

FEET

KILOMETERS

GRASSHOPPER JUNCTION SE, ARIZONA
7.5 MINUTE SERIES
SHEET NUMBER 61 OF 80

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

Joins sheet 50, Grasshopper Junction

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MOHAVE COUNTY, ARIZONA, CENTRAL PART
CERBAT QUADRANGLE
SHEET NUMBER 62 OF 80

Joins sheet 52, Elements Canyon

114°15′00″ | 114°12′30″ | 114°10′00″ | 114°07′30″

Joins sheet 51, Chloride

R. 18 W. R. 17 W.

35°22′30″

35°20′00″

T. 23 N.
T. 22 N.

35°17′30″

35°15′00″

Joins sheet 61, Grasshopper Junction SE

Joins sheet 63, Stockton Hill

Mineral Park

Turquoise Mountain

CERBAT MOUNTAINS

SACRAMENTO VALLEY

Cerbat Canyon

Cerbat Wash

93

Joins sheet 72, Secret Pass

Joins sheet 73, Kingman NW

Joins sheet 74, Kingman

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North American Datum of 1983 (NAD83). GRS-80 Spheriod 1000-meter ticks: Universal Transverse Mercator, zone 11. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

1 0 1
MILES

1000 0 1000 2000 3000 4000 5000 6000 7000
FEET

1 0 1
KILOMETERS

CERBAT, ARIZONA
7.5 MINUTE SERIES
SHEET NUMBER 62 OF 80

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MOHAVE COUNTY, ARIZONA, CENTRAL PART
STOCKTON HILL QUADRANGLE
SHEET NUMBER 63 OF 80

Joins sheet 51, Chloride
Joins sheet 52, Elements Canyon
Joins sheet 53, Long Mountain
Joins sheet 62, Cerbat
Joins sheet 64, Kingman Airport
Joins sheet 73, Kingman NW
Joins sheet 74, Kingman
Joins sheet 75, Rattlesnake Hill

114°07′30″ 114°05′00″ 114°02′30″ 114°00′00″
R. 17 W. R. 16 W.
35°22′30″
35°20′00″
T. 23 N.
T. 22 N.
35°17′30″
35°15′00″

STOCKTON HILL ROAD
CERBAT HILL
Cerbat Canyon
MOUNTAINS
Stockton
Johnston Canyon
Bull Mountain
HUALAPAI VALLEY

SCALE 1:24000

MILES 1 0 1
FEET 1000 0 1000 2000 3000 4000 5000 6000 7000
KILOMETERS 1 0 1

NORTH

QUADRANGLE LOCATION

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North American Datum of 1983 (NAD83). GRS-80 Spheriod 1000-meter ticks: Universal Transverse Mercator, zone 11. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

STOCKTON HILL, ARIZONA
7.5 MINUTE SERIES
SHEET NUMBER 63 OF 80

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MOHAVE COUNTY, ARIZONA, CENTRAL PART
KINGMAN AIRPORT QUADRANGLE
SHEET NUMBER 64 OF 80

Joins sheet 52, Elements Canyon
Joins sheet 53, Long Mountain
Joins sheet 54, Antares
Joins sheet 63, Stockton Hill
Joins sheet 65, Peacock Peak
Joins sheet 74, Kingman
Joins sheet 75, Rattlesnake Hill
Joins sheet 76, Hualapai Spring

114°00′00″ 113°57′30″ 113°55′00″ 113°52′30″
35°22′30″ 35°20′00″ 35°17′30″ 35°15′00″
R. 16 W. R. 15 W.
T. 23 N.
T. 22 N.

HUALAPAI VALLEY

KINGMAN AIRPORT

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NORTH

QUADRANGLE LOCATION

SCALE 1:24000

MILES

FEET

KILOMETERS

KINGMAN AIRPORT, ARIZONA
7.5 MINUTE SERIES
SHEET NUMBER 64 OF 80

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

113°52′30″ 113°50′00″ 113°47′30″ 113°45′00″

Joins sheet 54, Antares

R. 15 W. R. 14 W.

35°22′30″ 35°20′00″ 35°17′30″ 35°15′00″

T. 23 N.
T. 22 N.

PEACOCK MOUNTAINS

HUALAPAI VALLEY

Peacock Peak

Joins sheet 64, Kingman Airport

Joins sheet 66, Hackberry

Joins sheet 75, Rattlesnake Hill

Joins sheet 76, Hualapai Spring

Joins sheet 77, Tin Mountain NW

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North American Datum of 1983 (NAD83). GRS-80 Spheriod 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

MILES

FEET

KILOMETERS

PEACOCK PEAK, ARIZONA
7.5 MINUTE SERIES
SHEET NUMBER 65 OF 80

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

113° 45′ 00″ — R. 14 W. — R. 13 W. — 113° 42′ 30″ — Joins sheet 55, Valentine — 113° 40′ 00″ — 113° 37′ 30″

35° 22′ 30″ — 35° 20′ 00″ — T. 23 N. — T. 22 N. — 35° 17′ 30″ — 35° 15′ 00″

Joins sheet 65, Peacock Peak — Joins sheet 67, Valentine SE

Joins sheet 76, Hualapai Spring — Joins sheet 77, Tin Mountain NW — Joins sheet 78, Tin Mountain

Hackberry — Truxton Wash — TRUXTON — CANYON — Cottonwood Creek — COTTONWOOD MOUNTAINS — COTTONWOOD CLIFFS — PEACOCK MOUNTAINS — Hackberry Wash

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North American Datum of 1983 (NAD83). GRS-80 Spheriod 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

1 0 1 MILES

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

1 0 1 KILOMETERS

HACKBERRY, ARIZONA

7.5 MINUTE SERIES
SHEET NUMBER 66 OF 80

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MOHAVE COUNTY, ARIZONA, CENTRAL PART
VALENTINE SE QUADRANGLE
SHEET NUMBER 67 OF 80

Joins sheet 55, Valentine

Joins sheet 57, Cherokee Point

Joins sheet 56, Truxton

113°37′30″ 113°35′00″ 113°32′30″ 113°30′00″

R. 13 W. R. 12 W. R. 12 W. R. 11 W.

35°22′30″

35°20′00″

T. 23 N.
T. 22 N.

35°17′30″

35°15′00″

Joins sheet 66, Hackberry

Joins sheet 68, Tuckayou Spring

Joins sheet 77, Tin Mountain NW

Joins sheet 78, Tin Mountain

Joins sheet 79, Bull Spring

Cottonwood Creek

Wright Canyon

COTTONWOOD CLIFFS

COTTONWOOD MOUNTAINS

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of the Interior, Geological Survey, from 1992 - 1999 aerial photography. Public land survey system (PLSS) were acquired from U.S. Geological Survey.

North American Datum of 1983 (NAD83). GRS-80 Spheriod 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

MILES

FEET

KILOMETERS

VALENTINE SE, ARIZONA
7.5 MINUTE SERIES
SHEET NUMBER 67 OF 80

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MOHAVE COUNTY, ARIZONA, CENTRAL PART
TUCKAYOU SPRING QUADRANGLE
SHEET NUMBER 68 OF 80

Joins sheet 56, Truxton
Joins sheet 57, Cherokee Point
Joins sheet 58, Blye Canyon NE
Joins sheet 67, Valentine SE
Joins sheet 69, Blye Canyon SE
Joins sheet 78, Tin Mountain
Joins sheet 79, Bull Spring
Joins sheet 80, Fort Rock Ranch

113°30′00″ 113°27′30″ 113°25′00″ 113°22′30″

35°22′30″ 35°20′00″ 35°17′30″ 35°15′00″

R. 12 W. R. 11 W. R. 10 W.

T. 23 N.
T. 22 N.

Canyon
Rock
Tuckayou
Wash
Hells
Canyon
Tuckayou
Spring
Wash
Canyon
Munds
COTTONWOOD
MOUNTAINS

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of the Interior, Geological Survey, from 1992 - 1999 aerial photography. Public land survey system (PLSS) were acquired from U.S. Geological Survey.

North American Datum of 1983 (NAD83). GRS-80 Spheriod 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

MILES

FEET

KILOMETERS

TUCKAYOU SPRING, ARIZONA
7.5 MINUTE SERIES
SHEET NUMBER 68 OF 80

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

Joins sheet 57, Cherokee Point

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MOHAVE COUNTY, ARIZONA, CENTRAL PART
BLYE CANYON SE QUADRANGLE
SHEET NUMBER 69 OF 80

Joins sheet 58, Blye Canyon NE

113°22′30″ 113°20′00″ 113°17′30″ 113°15′00″

R. 10 W. R. 9 W.

35°22′30″ 35°20′00″

T. 23 N.
T. 22 N.

35°17′30″ 35°15′00″

MOHAVE COUNTY
YAVAPAI COUNTY

Joins sheet 68, Tuckayou Spring

Joins sheet 79, Bull Spring

Joins sheet 80, Fort Rock Ranch

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North American Datum of 1983 (NAD83). GRS-80 Spheriod 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

1 0 1
MILES

1000 0 1000 2000 3000 4000 5000 6000 7000
FEET

1 0 1
KILOMETERS

BLYE CANYON SE, ARIZONA
7.5 MINUTE SERIES
SHEET NUMBER 69 OF 80

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MOHAVE COUNTY, ARIZONA, CENTRAL PART
DAVIS DAM QUADRANGLE
SHEET NUMBER 70 OF 80

Joins sheet 60, Burns Spring

Joins sheet 59, Spirit Mountain SE

114°37′30″ 114°35′00″ 114°32′30″ 114°30′00″

R. 22 W. R. 21 W.

35°15′00″ 35°12′30″ 35°10′00″ 35°07′30″

T. 31 S.
T. 32 S.

T. 22 N.
T. 21 N.

T. 21 N.
T. 20 N.

LAKE MOHAVE
COLORADO RIVER
MOHAVE COUNTY, ARIZONA
CLARK COUNTY, NEVADA
LAKE MEAD NATIONAL RECREATION AREA
Lake Mohave Resort
DAVIS DAM
LIMIT OF SOIL SURVEY

Joins sheet 71, Union Pass

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North American Datum of 1983 (NAD83). GRS-80 Spheriod 1000-meter ticks: Universal Transverse Mercator, zone 11. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

1 0 1
MILES

1000 0 1000 2000 3000 4000 5000 6000 7000
FEET

1 0 1
KILOMETERS

DAVIS DAM, ARIZONA
7.5 MINUTE SERIES
SHEET NUMBER 70 OF 80

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UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MOHAVE COUNTY, ARIZONA, CENTRAL PART
UNION PASS QUADRANGLE
SHEET NUMBER 71 OF 80

Joins sheet 69, Spirit Mountain SE
Joins sheet 60, Burns Spring
Joins sheet 61, Grasshopper Junction SE
Joins sheet 70, Davis Dam
Joins sheet 72, Secret Pass

114°30′00″ 114°27′30″ 114°25′00″ 114°22′30″
35°15′00″ 35°12′30″ 35°10′00″ 35°07′30″
R. 21 W. R. 20 W.
T. 22 N. T. 21 N. T. 20 N.

Sugarloaf Mountain
Thumb Butte
Union Pass
BLACK MOUNTAINS
LIMIT OF SOIL SURVEY

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NORTH

QUADRANGLE LOCATION

SCALE 1:24000

MILES: 1 0 1

FEET: 1000 0 1000 2000 3000 4000 5000 6000 7000

KILOMETERS: 1 0 1

UNION PASS, ARIZONA
7.5 MINUTE SERIES
SHEET NUMBER 71 OF 80

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UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MOHAVE COUNTY, ARIZONA, CENTRAL PART
SECRET PASS QUADRANGLE
SHEET NUMBER 72 OF 80

Joins sheet 60, Burns Spring
Joins sheet 61, Grasshopper Junction SE
Joins sheet 62, Cerbat
Joins sheet 71, Union Pass
Joins sheet 73, Kingman NW

114°22′30″ 114°20′00″ 114°17′30″ 114°15′00″

R. 20 W. R. 19 W. R. 19 W. R. 18 W.

35°15′00″ 35°12′30″ 35°10′00″ 35°07′30″

T. 22 N.
T. 21 N.
T. 21 N.
T. 20 N.

Sacramento Wash

SACRAMENTO VALLEY

BLACK MOUNTAINS

LIMIT OF SOIL SURVEY

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NORTH

QUADRANGLE LOCATION

SCALE 1:24000

1 0 1
MILES

1000 0 1000 2000 3000 4000 5000 6000 7000
FEET

1 0 1
KILOMETERS

SECRET PASS, ARIZONA
7.5 MINUTE SERIES
SHEET NUMBER 72 OF 80

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MOHAVE COUNTY, ARIZONA, CENTRAL PART
KINGMAN NW QUADRANGLE
SHEET NUMBER 73 OF 80

Joins sheet 61, Grasshopper Junction SE
Joins sheet 62, Cerbat
Joins sheet 63, Stockton Hill
Joins sheet 72, Secret Pass
Joins sheet 74, Kingman

114°15′00″ 114°12′30″ 114°10′00″ 114°07′30″
35°15′00″ 35°12′30″ 35°10′00″ 35°07′30″
R. 19 W. R. 18 W. R. 17 W.
T. 22 N. T. 21 N. T. 20 N.

SACRAMENTO VALLEY

Cerbat Wash
Sacramento Wash
Castle Rock
LIMIT OF SOIL SURVEY

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NORTH

QUADRANGLE LOCATION

SCALE 1:24000

1 0 1
MILES

1000 0 1000 2000 3000 4000 5000 6000 7000
FEET

1 0 1
KILOMETERS

KINGMAN NW, ARIZONA
7.5 MINUTE SERIES
SHEET NUMBER 73 OF 80

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MOHAVE COUNTY, ARIZONA, CENTRAL PART
KINGMAN QUADRANGLE
SHEET NUMBER 74 OF 80

Joins sheet 62, Cerbat
Joins sheet 63, Stockton Hill
Joins sheet 64, Kingman Airport
Joins sheet 73, Kingman NW
Joins sheet 75, Rattlesnake Hill

114°07′30″ 114°05′00″ 114°02′30″ 114°00′00″
R. 17 W. R. 16 W.
35°15′00″ 35°12′30″ 35°10′00″ 35°07′30″
T. 22 N. T. 21 N. T. 20 N.

Hackberry
MOUNTAINS
Canyon
Johnston
STOCKTON HILL
ROAD
VALLEY
CERBAT
KINGMAN
Sawmill
HUALAPAI
MOUNTAINS
ATCHISON TOPEKA AND SANTA FE
A.T.&S.F.
LIMIT OF SOIL SURVEY

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NORTH

QUADRANGLE LOCATION

SCALE 1:24000

1 0 1
MILES

1000 0 1000 2000 3000 4000 5000 6000 7000
FEET

1 0 1
KILOMETERS

KINGMAN, ARIZONA
7.5 MINUTE SERIES
SHEET NUMBER 74 OF 80

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MOHAVE COUNTY, ARIZONA, CENTRAL PART
RATTLESNAKE HILL QUADRANGLE
SHEET NUMBER 75 OF 80

Joins sheet 63, Stockton Hill
Joins sheet 64, Kingman Airport
Joins sheet 65, Peacock Peak
Joins sheet 74, Kingman
Joins sheet 76, Hualapai Spring

114°00′00″ 113°57′30″ 113°55′00″ 113°52′30″
R. 16 W. R. 15 W.
35°15′00″ 35°12′30″ 35°10′00″ 35°07′30″
T. 22 N. T. 21 N. T. 20 N.

HUALAPAI VALLEY
HUALAPAI MOUNTAINS
Rattlesnake Hill
Sawmill Canyon
SANTA FE
ATCHISON TOPEKA AND
LIMIT OF SOIL SURVEY

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North American Datum of 1983 (NAD83). GRS-80 Spheriod 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

1 0 1
MILES

1000 0 1000 2000 3000 4000 5000 6000 7000
FEET

1 0 1
KILOMETERS

RATTLESNAKE HILL, ARIZONA
7.5 MINUTE SERIES
SHEET NUMBER 75 OF 80

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MOHAVE COUNTY, ARIZONA, CENTRAL PART
HUALAPAI SPRING QUADRANGLE
SHEET NUMBER 76 OF 80

Joins sheet 64, Kingman Airport
Joins sheet 65, Peacock Peak
Joins sheet 66, Hackberry
Joins sheet 75, Rattlesnake Hill
Joins sheet 77, Tin Mountain NW

113°52′30″ 113°50′00″ 113°47′30″ 113°45′00″

R. 15 W. R. 14 W.

35°15′00″ 35°12′30″ 35°10′00″ 35°07′30″

T. 22 N.
T. 21 N.
T. 20 N.

HUALAPAI VALLEY
HUALAPAI MOUNTAINS
PEACOCK MOUNTAINS

LIMIT OF SOIL SURVEY

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North American Datum of 1983 (NAD83). GRS-80 Spheriod 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

MILES: 1 0 1

FEET: 1000 0 1000 2000 3000 4000 5000 6000 7000

KILOMETERS: 1 0 1

HUALAPAI SPRING, ARIZONA
7.5 MINUTE SERIES
SHEET NUMBER 76 OF 80

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MOHAVE COUNTY, ARIZONA, CENTRAL PART
TIN MOUNTAIN NW QUADRANGLE
SHEET NUMBER 77 OF 80

Joins sheet 65, Peacock Peak
Joins sheet 66, Hackberry
Joins sheet 67, Valentine SE
Joins sheet 76, Hualapai Spring
Joins sheet 78, Tin Mountain

113°45′00″ 113°42′30″ 113°40′00″ 113°37′30″
R. 14 W. R. 13 W.
35°15′00″ 35°12′30″ 35°10′00″ 35°07′30″
T. 22 N. T. 21 N. T. 20 N.

LIMIT OF SOIL SURVEY

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NORTH

QUADRANGLE LOCATION

SCALE 1:24000

1 0 1
MILES

1000 0 1000 2000 3000 4000 5000 6000 7000
FEET

1 0 1
KILOMETERS

TIN MOUNTAIN NW, ARIZONA

7.5 MINUTE SERIES
SHEET NUMBER 77 OF 80

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MOHAVE COUNTY, ARIZONA, CENTRAL PART
TIN MOUNTAIN QUADRANGLE
SHEET NUMBER 78 OF 80

Joins sheet 66, Hackberry

Joins sheet 67, Valentine SE

Joins sheet 68, Tuckayou Spring

Joins sheet 77, Tin Mountain NW

Joins sheet 79, Bull Spring

113°37′30″ 113°35′00″ 113°32′30″ 113°30′00″

35°15′00″ 35°12′30″ 35°10′00″ 35°07′30″

R. 13 W. R. 12 W.

T. 22 N.
T. 21 N.
T. 20 N.

MOUNTAINS
CLIFFS
COTTONWOOD
COTTONWOOD
Tip Mountain
Creek
LIMIT OF SOIL SURVEY

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North American Datum of 1983 (NAD83). GRS-80 Spheriod 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

1 0 1
MILES

1000 0 1000 2000 3000 4000 5000 6000 7000
FEET

1 0 1
KILOMETERS

TIN MOUNTAIN, ARIZONA
7.5 MINUTE SERIES
SHEET NUMBER 78 OF 80

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

Joins sheet 67, Valentine SE

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MOHAVE COUNTY, ARIZONA, CENTRAL PART
BULL SPRING QUADRANGLE
SHEET NUMBER 79 OF 80

Joins sheet 69, Blye Canyon SE

Joins sheet 68, Tuckayou Spring

113°30′00″ 113°27′30″ 113°25′00″ 113°22′30″

R. 12 W. R. 11 W. R. 11 W. R. 10 W.

35°15′00″ 35°12′30″ 35°10′00″ 35°07′30″

T. 22 N. T. 21 N. T. 21 N. T. 20 N.

MOUNTAINS
COTTONWOOD
Wash
Tuckerman
Wash
Lookout
Wash
Lookout
Creek
Willow

Joins sheet 78, Tin Mountain

Joins sheet 80, Fort Rock Ranch

LIMIT OF SOIL SURVEY

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NORTH

QUADRANGLE LOCATION

SCALE 1:24000

1 0 1
MILES

1000 0 1000 2000 3000 4000 5000 6000 7000
FEET

1 0 1
KILOMETERS

BULL SPRING, ARIZONA
7.5 MINUTE SERIES
SHEET NUMBER 79 OF 80

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UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MOHAVE COUNTY, ARIZONA, CENTRAL PART
FORT ROCK RANCH QUADRANGLE
SHEET NUMBER 80 OF 80

Joins sheet 68, Tuckayou Spring

Joins sheet 69, Blye Canyon SE

Joins sheet 79, Bull Spring

113°22′30″ | 113°20′00″ | 113°17′30″ | 113°15′00″

R. 11 W. | R. 10 W. | R. 9 W.

35°15′00″ | T. 22 N. | T. 21 N.

35°12′30″

35°10′00″ | T. 21 N. | T. 20 N.

35°07′30″

Wash 32

Lookout

MOHAVE COUNTY
YAVAPAI COUNTY

LIMIT OF SOIL SURVEY

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NORTH

QUADRANGLE LOCATION

SCALE 1:24000

1 0 1
MILES

1000 0 1000 2000 3000 4000 5000 6000 7000
FEET

1 0 1
KILOMETERS

FORT ROCK RANCH, ARIZONA
7.5 MINUTE SERIES
SHEET NUMBER 80 OF 80

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